

BOOK NO. 4

SET NO. _____

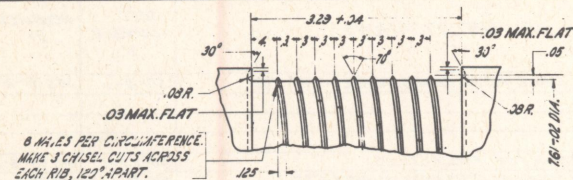
3-4

STUDY GUIDE

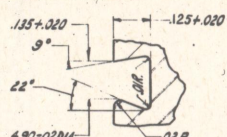
ORDNANCE AMMUNITION DRAWINGS

75-4-87 TO 75-20-94

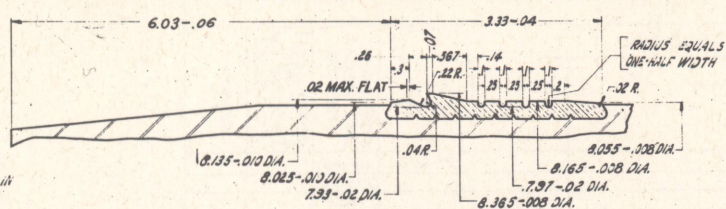
TO BE USED BY AMMUNITION INSPECTORS SCHOOL, SAVANNA ORDNANCE DEPOT



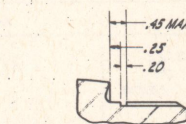
DETAIL OF BAND SEAT



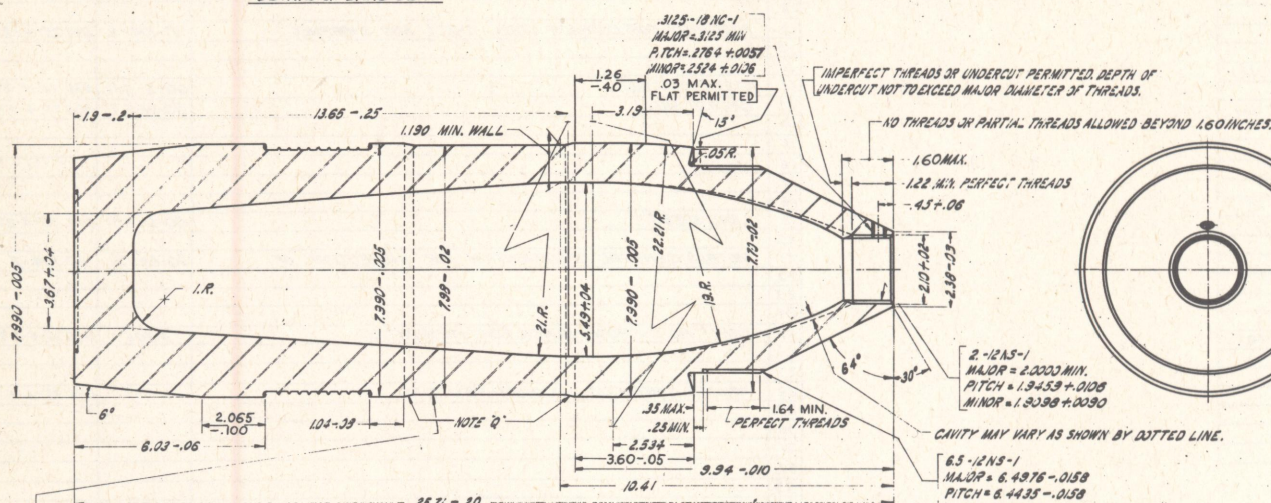
DETAIL OF BASE COVER GROOVE
NOTE: BASE COVER GROOVE NOT TO BE MACHINED IN SHELL IF BASE COVER 75-4-87E IS USED.



BAND, ROTATING
GILDING METAL
FINISH 'S'

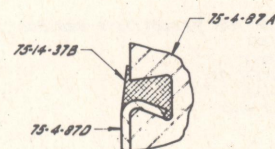


ALTERNATIVE VIEW SHOWING
THREAD UNDERCUT

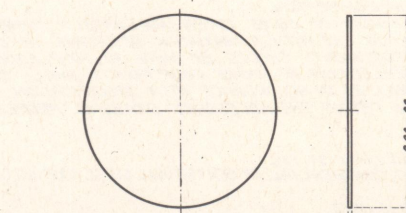


BODY, SHELL 75-4-87A10
FORGING, SHELL
FINISH OUTSIDE 'S'

MINIMUM PHYSICAL PROPERTIES
YIELD STRENGTH -- 65,000 P.S.I.
ELONGATION IN 2 IN -- 15%
REDUCTION IN AREA -- 30%

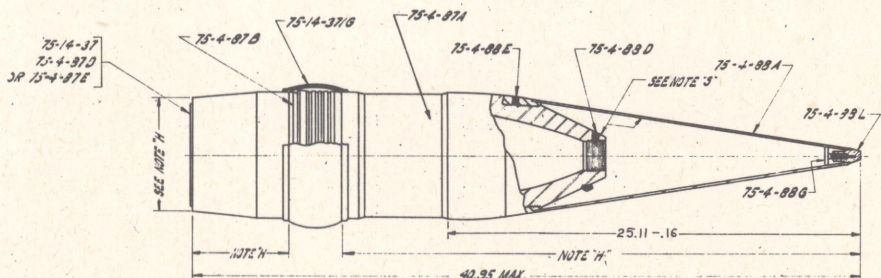


DETAIL OF BASE COVER ASSEMBLY
(ALTERNATIVE)



COVER, BASE, ALTERNATIVE 75-4-87E7
STEEL, W.D. 1010
BRIGHT, SOFT ANNEALED 3

NOTES:
A-MEAN VOLUME OF CAVITY TO OVERFLOWING = 37.3 CUB. IN.
B-MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
C-WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES.
CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
D-TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
E-SHELL MUST BE CAREFULLY CENTERED DURING THE AIRBORNE MACHINING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF THE CYLINDRICAL SURFACES. THE FOLLOWING MAX ECCENTRICITIES OF CYLINDRICAL SURFACES WILL BE ACCEPTED, WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.
1-BETWEEN FUZE SEAT OR 3615 THREADS AND BOURRELET .03
2-BETWEEN SHELL BODY AND ROTATING BAND WITH BOURRELET .009
(BOURRELET MUST OVERLAP SHELL BODY ON ENTIRE CIRCUMFERENCE).
F-DIMENSIONS, FOR WHICH NO TOLERANCE IS GIVEN, WILL NOT BE HABITUALLY GAGED.
G-COAT INTERIOR SURFACE OF SHELL WITH ACID-PROOF, BLACK PAINT, TYPE I OR II.
H-COAT EXTERIOR SURFACE OF METAL PARTS ASSEMBLY, EXCEPT ROTATING BAND, WITH A FULL PRIME COAT OF PRIMER, SYNTHETIC, LACQUER-RESISTING (ADVISORY DRY FILM THICKNESS .0006 TO .001).
THE BASE COVER, IF OF COPPER, NEED NOT BE PAINTED.
I-VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .068.
J-REMOVE ALL BURRS.
K-THE BOURRELET DIA. MAY BE REDUCED TO THE BODY DIA. IN A DISTANCE NOT TO EXCEED .35 INCH.
L-WITH THE PROJECTILE RUNNING TRUE IN ITS BOURRELETS THE ECCENTRICITY OF THE FRONT END OF THE FALSE DRIVE SHALL NOT EXCEED .04 INCH.
M-BEFORE ASSEMBLING FALSE DRIVE TO SHELL BODY, COAT NOSE OF SHELL AND INTERIOR OF FALSE DRIVE ASSEMBLY, EXCEPT THREADS, WITH A FULL PRIME COAT OF PRIMER, SYNTHETIC, LACQUER-RESISTING (ADVISORY DRY FILM THICKNESS .0006 TO .001).
N-WHEN BASE COVER, 75-4-87E, IS USED, SECURE TO BASE OF SHELL BY CONTINUOUS OVERLAPPING SPOT WELDS AROUND EDGE OF BASE COVER.



METAL PARTS ASSEMBLY 75-4-87C10

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-4-87
2	LIST OF PARTS AND LIST OF SPECS.	75-4-87A
3	DETAILS	75-4-88
4	BLANKS, ROTATING BAND, TYPE BC	75-4-41 (b)
5	FORGING, FOR SHELL, H.E. 8 IN., M103	75-20-87 (b)
6		
7	BASE COVERS FOR PROJECTILES	75-14-37
8	GRIMMET ASSEMBLY	75-14-371
9	BOX, PACKING	75-2-79
10		

(a) INCLUDES SET SCREW.
(b) DESIGN SHOWN NOT MANDATORY.

DESIGN DATA	
PART	POUNDS
BODY, SHELL	195.25 (2)
BAND, ROTATING	6.78
COVER, BASE	.62
HEAD, CLOSING	.17
OGIVE ASSEMBLY	14.33 (2)
TUBE	.46
CHARGE (CAST TNT)	20.90
FUZE, P.D., M. 31, MOD. 1	1.84
CUP, FUZE WELL	.02
TOTAL	240.37

WEIGHTS	
PART	POUNDS
BODY, SHELL	195.25 (2)
BAND, ROTATING	6.78
COVER, BASE	.62
OGIVE ASSEMBLY	14.33 (2)
HEAD, CLOSING	.17
RETAINING SCREW ASSEMBLY	.06
GRIMMET ASSEMBLY	1.31
SHIPPING WEIGHT	218.52

SHELL, H.E. 8 INCH, M103 METAL PARTS ASSEMBLY AND DETAILS				
AUGUST 28, 1940				
REVISIONS	CLASS	DIVISION	DRAWING	FILE
1 1-3-40	75	4	87	
2 3-3-41				
3 12-3-41				
4 6-6-42				
5 1-3-43				
6 3-7-43				
TOLERANCE, ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRG. PERTAINS TO				
SUBMITTED				
EXAMINED				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
ORDNANCE DEPT., U.S.A.				

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX GROSS WEIGHT OF FORWARD STOCK ASSEMBLIES
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	METAL PARTS ASSEMBLY						50-30-1	216.98	
2	METAL PARTS ASSEMBLY (SHIPPING)		75-4-87C					218.52	
3	FALSE OGIVE ASSEMBLY		75-4-88A					14.32	
4									
5	RETAINING SCREW ASSEMBLY		75-4-88G					.06	
6									
7	ADAPTER FALSE OGIVE	1	75-4-88C	FORGING	STEEL	30-40 CARBON	COMMERCIAL	7.25	(f)(2)
8	BAND, ROTATING	1	75-4-87B		GILDING METAL		50-27-1	6.78	
9	BODY, FALSE OGIVE	1	75-4-88B		DRAWN STEEL	WD1010	57-136	8.75	(c)(h)
10	BODY, SHELL	1	75-4-87A	FORGING	STEEL		57-104-2	195.24	
11	COVER, BASE, (ALTERNATIVE)	1	75-4-87E	SHEET	STEEL	WD1010 OR WD1020	57-136	.14	
12	COVER, BASE, ALTERNATIVE	1	75-4-87D	SHEET	STEEL	WD1010	57-136	.13	
13	COVER, BASE, TYPE III	1	75-14-37					.62	
14	DISC, RETAINING SCREW	1	75-4-88H	STRIP	BRASS	C, HALF HARD	QQ-B-611	.04	(d)
15	HEAD, CLOSING	1	75-4-88L	ROD	BRASS	B, HALF HARD	QQ-B-611	.17	(d)
16									
17	GROMMET ASSEMBLY	1	75-14-37G					1.31	
18	SCREW, SET, OGIVE	1	75-4-88E		STEEL		COMMERCIAL	.01	
19	SCREW, SET, SHELL	1	75-4-88D		STEEL		COMMERCIAL	.01	
20	STEM, RETAINING SCREW	1	75-4-88K	PIPE	STEEL PIPE		COMMERCIAL	.02	
21	STRIP, CALKING	1	75-14-37B	SHEET	LEAD	B	QQ-L-201	.20	(e)
22									
23									
24					GREASE, SHELL		50-11-37		
25					PAINT, ACID-PROOF BLACK	TYPE I OR II	3-106		
26					PRIMER, SYNTHETIC, LACQUER-RES.	TYPE I	3-183		
27									

- (a)-ALTERNATIVE--SEAMLESS STEEL TUBING, 20-30 CARBON, COMMERCIAL.
- (c)- OGIVE TO BE FORMED FROM 1/8 INCH STEEL. A 3 1/2 INCH LENGTH OF OGIVE TAKEN IMMEDIATELY FORWARD OF THE 723 DIA (75-4-88B, BODY, FALSE OGIVE) MUST WITHSTAND A TOTAL COMPRESSION LOAD OF 89,000 LBS. WITH A MAXIMUM DECREASE IN LENGTH OF .025 DUE TO DEFLECTION WHILE UNDER LOAD. MEASUREMENTS SHOULD BE MADE AT FOUR EQUIDISTANT POINTS AROUND THE PERIPHERY AND THE AVERAGE DEFLECTION AT THESE FOUR POINTS SHALL BE TAKEN AS THE TOTAL DEFLECTION. THE MATERIAL OF THE OGIVE WILL BE IN ACCORDANCE WITH SPECIFICATION 57-136, WD1010, BUT THE CARBON CONTENT MAY BE VARIED TO OBTAIN THE NECESSARY DRAWING PROPERTIES AND MEET THE PRESCRIBED COMPRESSION TESTS.
- (h)- ALTERNATIVE--STEEL, WD1020 OR WD1025, HOT OR COLD ROLLED, SPEC. 57-136
- (i)- ALTERNATIVE--STEEL BAR, 20-30 CARBON, WELDED RING, COMMERCIAL OR CENTRIFUGAL STEEL, CASTING, CLASS 2, SPEC. QQ-S-681
- (d)- ALTERNATIVE--STEEL, COMMERCIAL.
- (e)- REQUIRED WHEN COVER, BASE, ALTERNATIVE 75-4-87D IS USED.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR	50-0-1	DRG. 75-4-87
2			
3			
4			
5	BLANKS, ROTATING BAND, FOR PROJECTILES	50-27-1	DRG. 75-4-87
6	BRASS, COMMERCIAL, BARS, PLATES, RODS, SHAPES, ETC.	QQ-B-611	DRG. 75-4-88
7			
8			
9	FORGINGS, FOR COMMON STEEL SHELL AND SHARPNEE	57-104-2	DRG. 75-4-87
10			
11			
12	STEEL, CASTINGS	QQ-S-681	DRG. 75-4-88
13	GREASE, SHELL	50-11-37	DRG. 75-4-88
14			
15			
16			
17			
18			
19	LEAD, SHEET	QQ-L-201	DRG. 75-4-87
20			
21	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-104-2
22			
23			
24			
25	PAINT, ACID-PROOF BLACK, FOR AMMUNITION	3-106	DRG. 75-4-87
26			
27			
28	PRIMER, SYNTHETIC, LACQUER-RESISTING	3-183	DRG. 75-4-87
29			
30			
31			
32			
33			
34			
35	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG. 75-4-87
36	SHELL, STEEL, MANUFACTURED FROM FORGINGS	50-30-1	DRG. 75-4-87
37	STEEL SHEETS AND STRIPS, CARBON AND ALLOY	57-136	DRG. 75-4-88

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

SHELL, H.E., 8 INCH M103.
METAL PARTS ASSEMBLY
LIST OF PARTS AND
LIST OF SPECIFICATIONS

AUGUST 28, 1940

REVISIONS

1

5-31-41

2

10-30-41

3

12-3-41

4

5-7-43

5

4-10-44

6

8-15-45

CLASS

DIVISION

DRAWING

FILE

75

4

87A

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED

DECIMAL ±

FRACTIONAL ±

ANGULAR ±

DFTSMAN

TRACER

ENGINEER

A.E.P.

J.M.X.

W.T.

CHECKED

D.C.

PRINCIPAL ENGINEER

75-4-87

19.7

SUBMITTED

EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

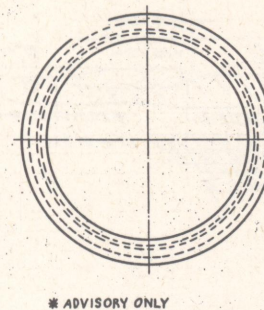
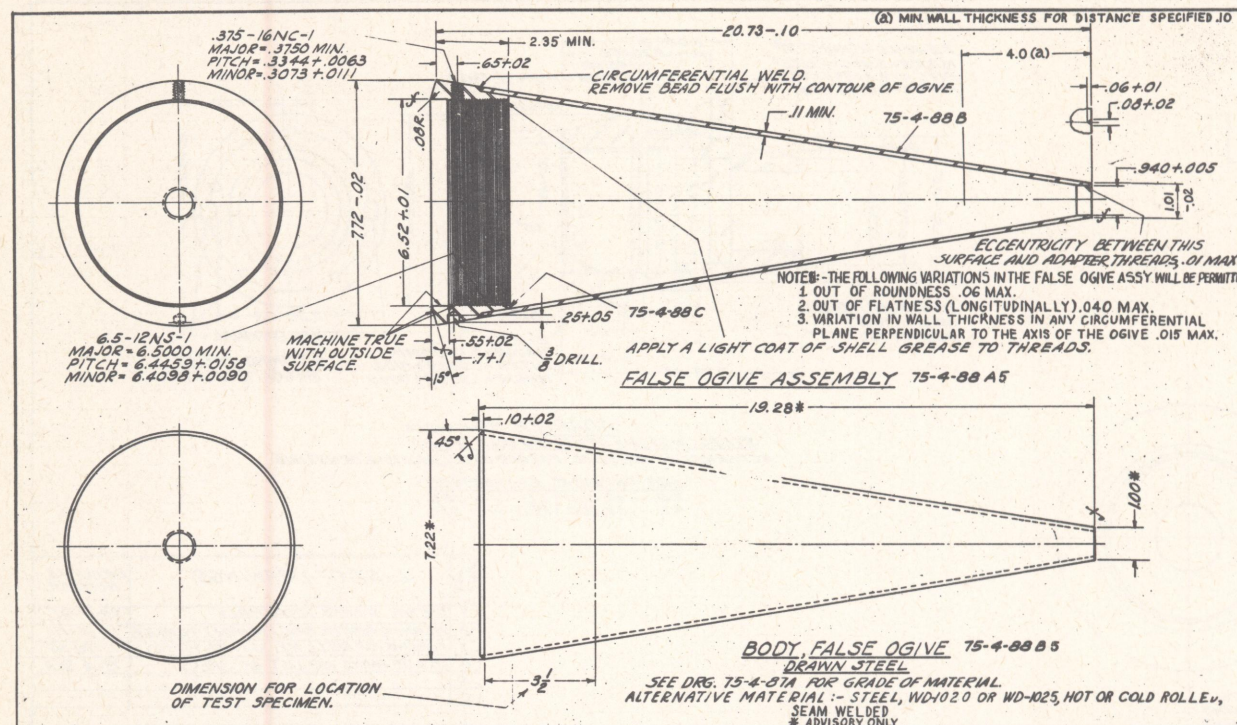
LT. COL., ORD. DEPT. U.S.A.

COL., ORD. DEPT. U.S.A.

LT. COL., ORD. DEPT. U.S.A.

D

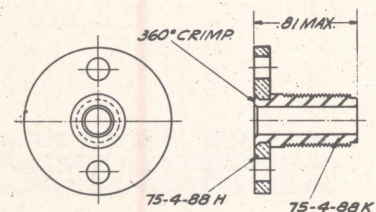
ORDNANCE DEPT., U.S.A.



ADAPTER, FALSE OGIVE 75-4-88 C5
STEEL FORGING, 30-40 CARBON, COMMERCIAL - ALTERNATIVE, CENTRIFUGAL CASTING, STEEL, CLASS 2
ALTERNATIVE MATERIAL: SEAMLESS STEEL TUBING, 20-30 CARBON, COMMERCIAL.
ALTERNATIVE MATERIAL: STEEL, BAR, 20-30 CARBON, FORMED, ELECTRICAL RESISTANCE
WELDED AND STRESS RELIEVED, COMMERCIAL
FINISH

SCREW, SET, OGIVE 75-4-88 E4
STEEL, COMMERCIAL
FINISH
Cadmium or Zinc Plate.

SCREW, SET, SHELL 75-4-88 D4
STEEL, COMMERCIAL
FINISH
Cadmium or Zinc Plate.



DISC, RETAINING SCREW 75-4-88 H4
COMMERCIAL BRASS, STRIP, COMPOSITION "C", HALF HARD.
ALTERNATIVE MATERIAL: STEEL (CADMIUM OR ZINC PLATE)

STEM, RETAINING SCREW 75-4-88 K4
STEEL PIPE, COMMERCIAL
Cadmium or Zinc Plate.

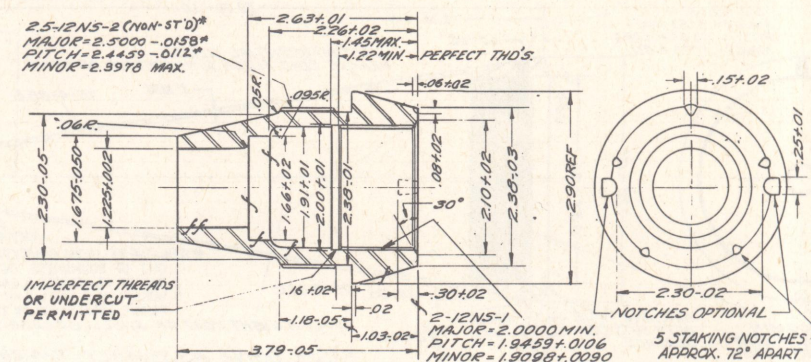
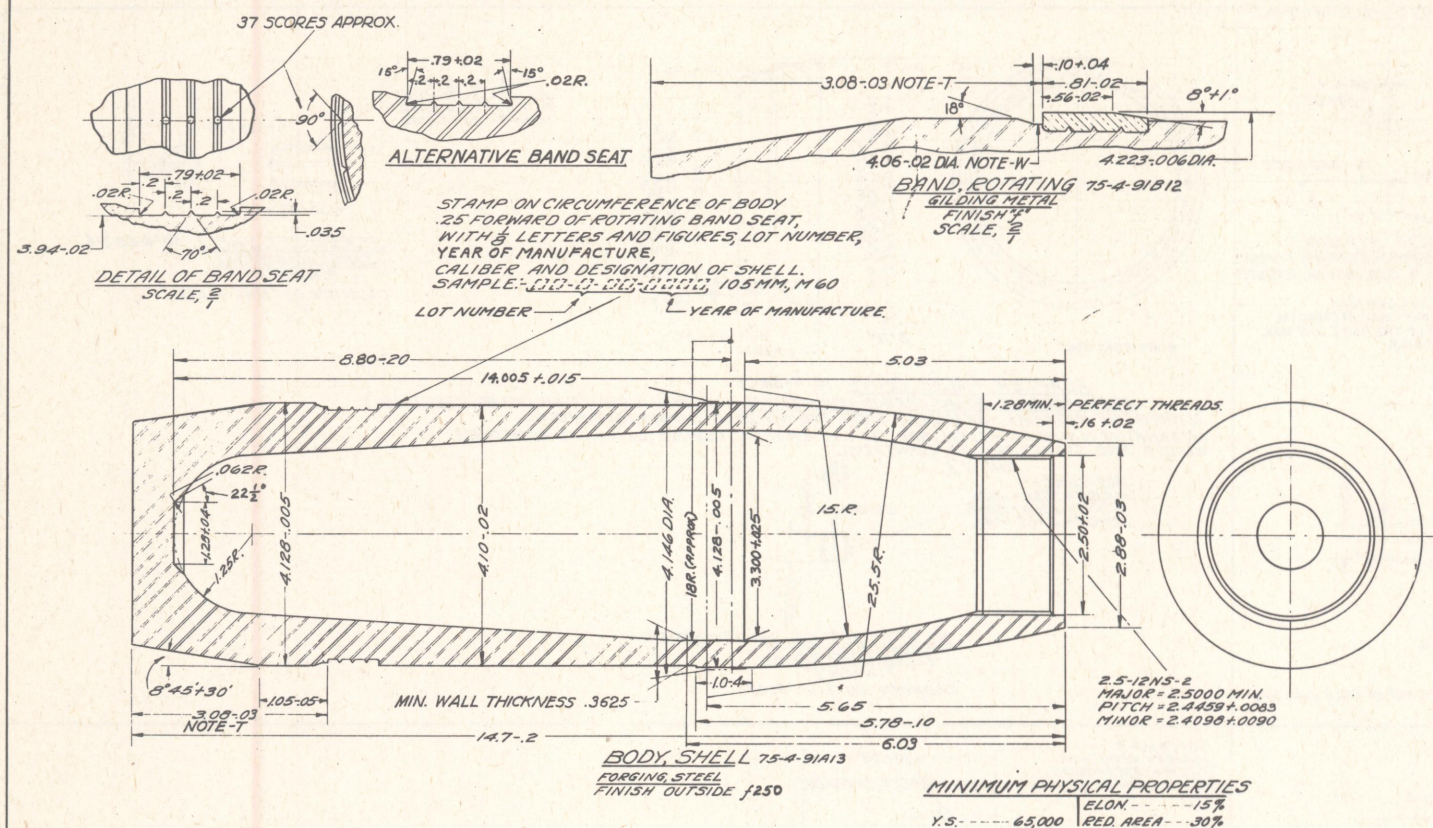
HEAD, CLOSING 75-4-88 L5
COMMERCIAL BRASS, ROD, COMPOSITION "B", HALF HARD
FINISH
ALTERNATIVE MATERIAL: STEEL (CADMIUM OR ZINC PLATE).

NOTICE: THIS DRAWING IS NOT TO BE USED FOR REPRODUCTION WITHOUT AUTHORIZATION IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

REMOVE ALL BURRS

SCALE, INCHES: 1/2" = 1"

SHELL, H.E., 8 INCH, M 103 DETAILS										
AUGUST 28, 1940	CLASS	DIVISION	DRAWING	FILE						
REVISIONS	75	4	88							
1 10-8-40	SYMBOL									
2 10-30-41	<table><tr><td>ENGINEER</td></tr><tr><td>W.H.T.</td></tr></table>				ENGINEER	W.H.T.				
ENGINEER										
W.H.T.										
3 12-3-41										
4 5-7-43	<table><tr><td>CHECKED</td><td>CHECKER</td><td>CHIEF OF ORDNANCE</td></tr><tr><td>W.H.T.</td><td>W.H.T.</td><td>M.T.</td></tr></table>				CHECKED	CHECKER	CHIEF OF ORDNANCE	W.H.T.	W.H.T.	M.T.
CHECKED	CHECKER	CHIEF OF ORDNANCE								
W.H.T.	W.H.T.	M.T.								
5 8-15-45	SUBMITTED									
DRG. PERTAINS TO										
75-4-87	EXAMINED									
	APPROVED BY CHIEF OF ORDNANCE									
	ORDNANCE DEPT., U. S. A.									



LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-4-91
2	BLANKS, ROTATING BAND, FOR PROJ. TYPE M5A1A	75-1A-81
3	FORGING FOR SHELL, M.E. 105MM, M1 (a)	75-20-76
4	LIST OF PARTS AND LIST OF SPECS.	75-4-91A
5		
6		

(a) DESIGN SHOWN ON THIS DRAWING NOT MANDATORY.

NOTES:

A-MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.

B-MEAN VOLUME OF CAVITY TO OVERFLOWING = 89.79 CU IN.

C-WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES; CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.

D-TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.

E-DIMENSIONS FOR WHICH NO TOLERANCES ARE GIVEN WILL NOT BE HABITUALLY GAGED.

F-SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES, THE FOLLOWING MAXIMUM ECCENTRICITY OF CYLINDRICAL SURFACES WILL BE ACCEPTED: (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.)

1-BETWEEN FUZE THREADS IN ADAPTER (2-12NS-1) AND OUTSIDE SHELL BODY .015

2-BETWEEN BOURRELET AND ROTATING BAND WITH SHELL BODY, .008 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE)

3-BETWEEN BURSTER TUBE RECESS AND ADAPTER SEAT THREADS, .03

4-BETWEEN ADAPTER HOLE (1.223±.002) AND OUTSIDE SHELL BODY .015

5-THE 2.88±.03 NOSE DIAMETER IS NOT TO BE USED IN SETTING TOOLS TO MACHINE THE OGIVE.

6-AFTER BRAZING ADAPTER TO SHELL BODY, ASSEMBLY MUST WITHSTAND AN AIR PRESSURE TEST OF 100 LBS. PER SQ. IN. FOR 15 SECONDS WITHOUT LEAKAGE.

H-COAT ENTIRE EXTERIOR SURFACE, EXCEPT ROTATING BAND, WITH BLUE GRAY LACQUER ENAMEL, OR ENAMEL.

K-COAT INTERIOR SURFACE OF ASSEMBLY, EXCEPT ADAPTER CAVITIES, WITH ACID-PROOF BLACK PAINT, TYPE I OR TYPE II.

L-APPLY A LIGHT COAT OF SHELL GREASE TO ADAPTER CAVITIES.

M-REMOVE ALL BURRS.

N-ASSEMBLE ADAPTER TIGHT, SILVER BRAZE 360° AND CLEAN TO ORIGINAL CONTOUR. LOCALIZE BRAZING HEAT IN REGION SPECIFIED BY MEANS OF INDUCTION HEATING.

P-SOLDER TO PENETRATE A MINIMUM DEPTH OF THREE THREADS.

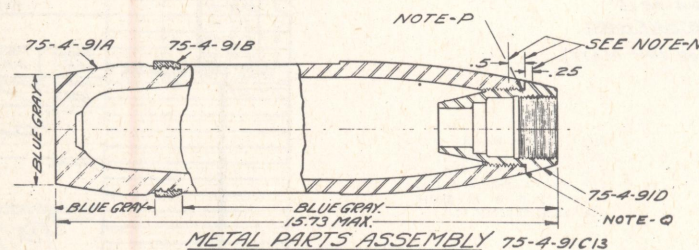
R-VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET SHALL NOT EXCEED .044

S-THE 2.88±.03 NOSE DIAMETER IS NOT TO BE USED IN SETTING TOOLS TO MACHINE THE OGIVE.

T-REAR FACE OF ROTATING BAND SHALL BE A MAX DISTANCE OF ±.02 FROM REAR EDGE OF BAND SEAT.

W-BAND RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDING.

Q-ADAPTER MUST BLEND WITH SHELL BODY AFTER ASSEMBLY. OGIVE RADIUS, OR CONICAL CONTOUR, PERMITTED AT FORWARD END OF SHELL ASSEMBLY CONICAL CONTOUR CAN EXTEND ONTO SHELL BODY NOT MORE THAN A DISTANCE EQUAL TO $\frac{1}{2}$ WIDTH OF ADAPTER FLANGE AND MUST BLEND WITH OGIVE CONTOUR.



DESIGN DATA	
PART	POUNDS
SHELL, EMPTY (WITH ADAPTER)	26.58
CHARGE, SMOKE (WD)	4.10(2)
CHARGE, BURSTER, M5	.36
CASING, BURSTER, M5	1.11
CUP, FUZE WELL	.02
BOOSTER, M22	.73
FUZE, M57	1.41
TOTAL	34.31

WEIGHTS	
PART	POUNDS
BODY SHELL	24.24
BAND, ROTATING	.47
ADAPTER	1.86
TOTAL WEIGHT, EMPTY	26.57±.60

(Y)-FOR HS GAS = 317 LBS.
FOR FS SMOKE = 461 LBS.
(Z)-WEIGHT INCLUDES LAYER OF
WATER $\frac{1}{8}$ INCH THICK.

SCALE, INCHES, $\frac{1}{2}$, $\frac{3}{4}$

WITH NEW TRACING 75-4-91A
SUPERSEDES OLD TRACING 75-4-91
UNDER REVISION DATE OF JULY 5, 43

SHELL, CHEMICAL, 105MM, M60 METAL PARTS ASSEMBLY AND DETAILS.

SEPTEMBER 26, 1940	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	4	91	
8 10-30-41				
9 5-26-48				
10 7-5-43				
11 5-16-44				
12 9-23-44				
13 8-15-45				
DRG. PERTAINS TO				
DFTMAN R.F.H.	TRACER R.F.H.	ENGINEER L.H.		
CHECKER L.H.H.				
SUBMITTED				
EXAMINED				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
ORDNANCE DEPT., U.S.A.				

LIST OF PARTS									
LINE NO	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE-MARK	MATERIAL		GRADE	SPEC. NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
				SIZE OR FORM	KIND				
1	METAL PARTS ASSEMBLY		75-4-91C				50-30-1	26.58	
2									
3	ADAPTER	1	75-4-91D	BAR	STEEL, COLD DRAWN	WDX 1314 OR WDX 1315	57-107	1.86	(A)
4									
5									
6	BAND, ROTATING	1	75-4-91B	TUBING	GILDING METAL		50-27-1	.47	
7	BODY, SHELL	1	75-4-91A	FORGING	STEEL		57-104-2	24.24	
8									
9									
10									
11									
12	SCREW, SET	1	75-4-91F	ROD	STEEL		COMMERCIAL	.01	
13									
14									
15									
16					GREASE, SHELL		50-11-37		
17					LACQUER ENAMEL, BLUE GRAY	I	JAN-L-73		(b)
18					PAINT, ACID-PROOF BLACK	TYPE I OR II	3-106		
19									
20									
21				WIRE	SOLDER, SILVER		QQ-5-561		(C)
22					FLUX, BRAZING (SILVER)				

(A)- ALTERNATIVE MATERIAL:- FORGED STEEL, WDX 1314 OR WDX 1315, SPEC. 57-105
 (b)- ALTERNATIVE MATERIAL:- ENAMEL, BLUE-GRAY, GRADE I, SPEC. JAN-E-74
 (C)- WIRE SIZE:- .05 X .156 ± .006 X 7.45

LIST OF SPECIFICATIONS			SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR		50-0-1	DRG 75-4-91
2	BLANKS, ROTATING BAND, FOR PROJECTILES		50-27-1	DRG 75-4-91
3	CLEANING AND PREPARATION OF METAL SURFACES, ETC.		AXS-1245	DRG 75-4-91
4				
5	ENAMEL, LUSTRELESS, QUICK-DRYING		JAN-E-74	DRG 75-4-91
6				
7	FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL		57-104-2	DRG 75-4-91
8	FORGINGS, LIGHT, DROP AND MISC., STEEL, CARBON AND ALLOY		57-105	DRG 75-4-91
9	FLUX, BRAZING (SILVER)		4-1121	DRG 75-4-91
10				
11	GREASE, SHELL		50-11-37	DRG 75-4-91
12				
13	LACQUER ENAMEL, LUSTRELESS		JAN-L-73	DRG 75-4-91
14	METALS; GENERAL SPECIFICATION FOR INSPECTION OF		QQ-M-151	57-107
15	PAINT, ACID-PROOF BLACK		3-106	DRG 75-4-91
16	PAINTS AND RELATED MATERIALS, GENERAL SPEC'S FOR		(f) 3-1	JAN-L-73
17				
18				
19	STEEL, FORGING; FOR SHELL STOCK		57-104-1	DRG 75-4-91
20	SHELL, STEEL MANUFACTURED FROM FORGINGS		50-30-1	DRG 75-4-91
21	STEEL, CARBON, AND ALLOY, BARS		57-107	DRG 75-4-91
22	SOLDER, SILVER		QQ-5-561	DRG 75-4-91
23	SHIPMENT, MARKING, STANDARD SPECIFICATIONS FOR		100-2	50-30-1
24				
25				

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
 WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
 SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.
 (f)- COLOR CARD SUPPLEMENT ONLY MANDATORY.

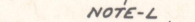
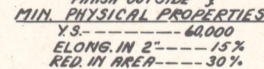
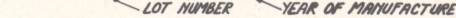
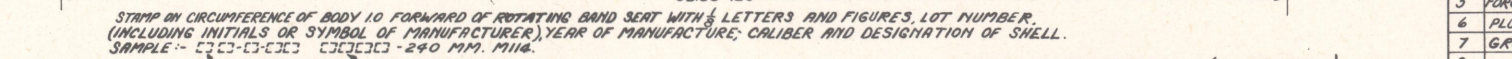
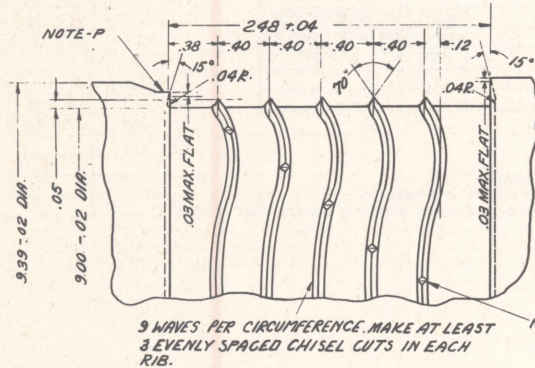
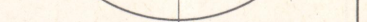
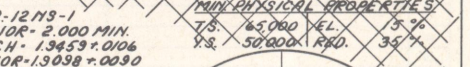
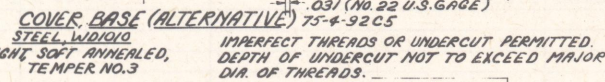
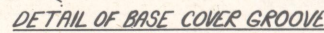
WITH NEW TRACING 75-4-91
 SUPERSEDES OLD TRACING 75-4-91
 UNDER REVISION DATE OF JULY 5-43

SHELL, CHEMICAL, 105MM, M60				
LIST OF PARTS AND LIST OF SPECIFICATIONS.				
JULY 5, 1943		CLASS	DIVISION	DRAWING FILE
REVISIONS		75	4	91A
1	8-15-45			
		TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED		
		DECIMAL ±		
		FRACTIONAL ±		
		ANGULAR ±		
		DYFSMAN	TRACER	ENGINEER
		RFN	RFN	RFN
DRG. PERTAINS TO		CHECKER	APPROVER	ENGINEER
		RFN	RFN	RFN
		SUBMITTED:		
		Am Gallagher		
		MAJOR, ORG. DEPT. U.S.A.		
		EXAMINED:		
		Lt. Woodbury		
		LT. COL. ORG. DEPT. U.S.A.		
		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:		
		J. H. H. H. H.		
		COL. ORG. DEPT. U.S.A.		
D		ORDNANCE DEPT., U.S.A.		

(C) BANDS UNDERSIZE ON THESE DIAMETERS .005 DUE TO FLAT SPOTS IN NOT MORE THAN TWO PLACES WILL BE ACCEPTABLE.

Technical drawing of a shell cross-section with dimensions and tolerances:

- Overall length: 252-.04
- Distance from base to first band: 1.90-.02
- Distance from base to second band: 45-.02
- Distance from base to third band: 15.32
- Distance from base to fourth band: 15.32
- Distance from base to fifth band: 15.32
- Distance from base to sixth band: 15.32
- Distance from base to seventh band: 15.32
- Distance from base to eighth band: 15.32
- Distance from base to ninth band: 15.32
- Distance from base to tenth band: 15.32
- Distance from base to eleventh band: 15.32
- Distance from base to twelfth band: 15.32
- Distance from base to thirteenth band: 15.32
- Distance from base to fourteenth band: 15.32
- Distance from base to fifteenth band: 15.32
- Distance from base to sixteenth band: 15.32
- Distance from base to seventeenth band: 15.32
- Distance from base to eighteenth band: 15.32
- Distance from base to nineteenth band: 15.32
- Distance from base to twentieth band: 15.32
- Distance from base to twenty-first band: 15.32
- Distance from base to twenty-second band: 15.32
- Distance from base to twenty-third band: 15.32
- Distance from base to twenty-fourth band: 15.32
- Distance from base to twenty-fifth band: 15.32
- Distance from base to twenty-sixth band: 15.32
- Distance from base to twenty-seventh band: 15.32
- Distance from base to twenty-eighth band: 15.32
- Distance from base to twenty-ninth band: 15.32
- Distance from base to thirtieth band: 15.32
- Distance from base to thirty-first band: 15.32
- Distance from base to thirty-second band: 15.32
- Distance from base to thirty-third band: 15.32
- Distance from base to thirty-fourth band: 15.32
- Distance from base to thirty-fifth band: 15.32
- Distance from base to thirty-sixth band: 15.32
- Distance from base to thirty-seventh band: 15.32
- Distance from base to thirty-eighth band: 15.32
- Distance from base to thirty-ninth band: 15.32
- Distance from base to fortieth band: 15.32
- Distance from base to forty-first band: 15.32
- Distance from base to forty-second band: 15.32
- Distance from base to forty-third band: 15.32
- Distance from base to forty-fourth band: 15.32
- Distance from base to forty-fifth band: 15.32
- Distance from base to forty-sixth band: 15.32
- Distance from base to forty-seventh band: 15.32
- Distance from base to forty-eighth band: 15.32
- Distance from base to forty-ninth band: 15.32
- Distance from base to fiftieth band: 15.32
- Distance from base to fifty-first band: 15.32
- Distance from base to fifty-second band: 15.32
- Distance from base to fifty-third band: 15.32
- Distance from base to fifty-fourth band: 15.32
- Distance from base to fifty-fifth band: 15.32
- Distance from base to fifty-sixth band: 15.32
- Distance from base to fifty-seventh band: 15.32
- Distance from base to fifty-eighth band: 15.32
- Distance from base to fifty-ninth band: 15.32
- Distance from base to sixtieth band: 15.32
- Distance from base to sixty-first band: 15.32
- Distance from base to sixty-second band: 15.32
- Distance from base to sixty-third band: 15.32
- Distance from base to sixty-fourth band: 15.32
- Distance from base to sixty-fifth band: 15.32
- Distance from base to sixty-sixth band: 15.32
- Distance from base to sixty-seventh band: 15.32
- Distance from base to sixty-eighth band: 15.32
- Distance from base to sixty-ninth band: 15.32
- Distance from base to seventieth band: 15.32
- Distance from base to seventy-first band: 15.32
- Distance from base to seventy-second band: 15.32
- Distance from base to seventy-third band: 15.32
- Distance from base to seventy-fourth band: 15.32
- Distance from base to seventy-fifth band: 15.32
- Distance from base to seventy-sixth band: 15.32
- Distance from base to seventy-seventh band: 15.32
- Distance from base to seventy-eighth band: 15.32
- Distance from base to seventy-ninth band: 15.32
- Distance from base to eightieth band: 15.32
- Distance from base to eighty-first band: 15.32
- Distance from base to eighty-second band: 15.32
- Distance from base to eighty-third band: 15.32
- Distance from base to eighty-fourth band: 15.32
- Distance from base to eighty-fifth band: 15.32
- Distance from base to eighty-sixth band: 15.32
- Distance from base to eighty-seventh band: 15.32
- Distance from base to eighty-eighth band: 15.32
- Distance from base to eighty-ninth band: 15.32
- Distance from base to ninetieth band: 15.32
- Distance from base to ninety-first band: 15.32
- Distance from base to ninety-second band: 15.32
- Distance from base to ninety-third band: 15.32
- Distance from base to ninety-fourth band: 15.32
- Distance from base to ninety-fifth band: 15.32
- Distance from base to ninety-sixth band: 15.32
- Distance from base to ninety-seventh band: 15.32
- Distance from base to ninety-eighth band: 15.32
- Distance from base to ninety-ninth band: 15.32
- Distance from base to one hundred band: 15.32

DESIGN DATA:

PART	POUNDS
BODY, SHELL	296.31
BAND, ROTATING	6.30
CHARGE (CAST TNT)	54.00
COVER, BASE	1.23
CUP, FUZE WELL	.06
FUZE, P.D. M51A3	2.14
TOTAL	360.04

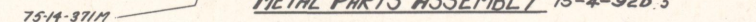
WEIGHTS	
PART	POUNDS
BODY, SHELL	296.91
BAND, ROTATING	6.30
COVER, BASE	1.23
TOTAL WEIGHT EMPTY	303.84 ± .5
PLUS, LIFTING	1.75
GROMMET	1.76
SHIPPING WEIGHT	307.35

(C) DESIGN SHOWN ON THIS DRAWING NOT MANDATORY		
LINE NO	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-4-92
2	LIST OF PARTS AND LIST OF SPECS.	75-4-92 A
3	BASE COVERS FOR PROJECTILES	75-14-37
4	BLANKS, ROTATING BAND FOR PROJ.	75-14-41 (A)
5	FORGEING FOR 240 MM. H.E. SHELL M114.	75-20-39
6	PLUG, LIFTING (EYEBOLT TYPE)	75-14-52
7	GROMMET	75-14-371
8		
9	ADAPTER	75-14-590

**SHELL, HE, 240-MM, M114
METAL PARTS ASSEMBLY
AND DETAILS.**

APRIL 21, 1941				CLASS		DIVISION		DRAWING		FILE	
REVISONS				75		4		92			
4	10-20-42			TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL 2 FRACTIONAL 2 ANGULAR 2							
5	6-16-44										
6	8-25-44										
7	6-2-45										
8	8-15-45										
DRG. PERTAINS TO				DFTSMAN M.J.E.		TRACER M.J.E.		ENGINEER H. J.			
				CHECKER Y.H.		D.O.		PRINCIPAL ENGINEER C.H.W.			
				SUBMITTED: <i>Amegallaga</i> LT COLONEL DEPT. U.S.A.							
				EXAMINED: <i>L. M. Brackley</i> CAPT., ORD. DEPT. U.S.A.							
				APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>C.S. Ried</i> COLONEL DEPT. U.S.A. <i>by G.E.</i>							
75-14-349											
D				ORDNANCE DEPT. U.S.A.							

P- RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDING.
Q- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET SHALL NOT EXCEED .060
R- NO THREADS OR PARTIAL THREADS ALLOWED BEYOND 1.60
T- REMOVE ALL BURRS
U- REAR FACE OF ROTATING BAND SHALL BE $\pm .03$ FROM REAR EDGE OF BAND SEAT.
S- RIBS HAVING MISSING OR DEFECTIVE SECTIONS NOT OVER 10% OF THE TOTAL LENGTH OF ALL RIBS IS ACCEPTABLE. THIS ACCUMULATED LENGTH OF DEFECTIVE OR MISSING RIB MAY BE CONFINED ONE RIB OR DISTRIBUTED OVER ALL RIBS.



METAL PARTS ASSEMBLY 75-4-92D.5

SCALE: $\frac{1}{4}, \frac{1}{2}, 2, 4$

LIST OF PARTS									
LINE NO	NAME OF PART	NUMBER REQD PER COMPONENT	PIECEMARK	MATERIAL			APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX GROSS WT. OF EACH STANDARD ASSEMBLY	REMARKS
				SIZE OR FORM	KIND	GRADE SPEC. NO.			
1	METAL PARTS ASSEMBLY		75-4-92D			50-30-1	307.35		
2	METAL PARTS ASSEMBLY (ALT.)		75-4-92G			50-30-1	307.35		
3	BAND, ROTATING	1	75-4-92B	TUBING	GILDING METAL	50-27-1	6.30		
4	BODY, SHELL	1	75-4-92A	FORGING	STEEL	57-104-2	296.31		
5									
6	COVER, BASE (ALTERNATIVE)	1	75-4-92C	SHEET	STEEL	WD1010 57-136	.29		(b)
7	COVER, BASE	1	75-14-37C	SHEET	COPPER, TYPE II	CLASS "A" QQ-C-501			(b) (a)
8	DISC	1	75-14-37A	SHEET	LEAD	B QQ-L-201	1.23		(b) (a)
9	STRIP, CALKING	1	75-14-37E	SHEET	LEAD	B QQ-L-201			(b) (a)
10	GROMMET	1	75-14-371M				1.76		
11									
12	PLUG, LIFTING	1	75-14-42A	FORGING OR CASTING	STEEL	50-44-2	1.75		
13									
14									
15									
16					PAINT, ACID-PROOF, BLACK	TYPE I OR II 3-106			
17					PAINT, BLACK, STENCIL	3-179			
18					PRIMER, SYNTHETIC	TYPE I 3-183			
19									

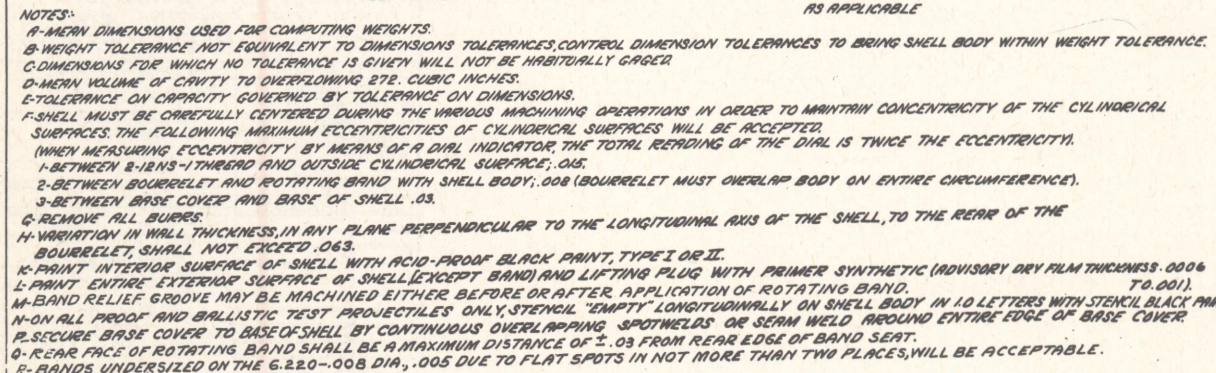
- (a) USE WITH TYPE IX BASE COVER
(b) TYPE OF BASE COVER TO BE INDICATED IN CONTRACT

LINE NO	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECS. FOR	50-0-1	DRG. 75-4-92
2			
3	BLANKS, ROTATING BAND, FOR PROJECTILES	50-27-1	DRG. 75-4-92
4			
5	COPPER, BARS, PLATES, RODS, SHAPES, SHEETS AND STRIPS	QQ-C-501	DRG. 75-4-92
6	CLEANING AND PREPARATION OF METAL SURFACES ETC.	AXS-1245	50-30-1
7	STEEL, FORGING, FOR SHELL STOCK	57-104-1	DRG. 75-4-92
8	FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2	DRG. 75-4-92
9			
10			
11			
12			
13	LEAD, SHEET	QQ-L-201	DRG. 75-4-92
14			
15			
16	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-136
17			
18	PAINT, ACID-PROOF BLACK, FOR AMMUNITION	3-106	DRG. 75-4-92
19	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	3-179
20	PAINT, STENCIL	3-179	DRG. 75-4-92
21	PLUGS, LIFTING (EYEBOLT TYPE) FOR PROJECTILES	50-44-2	DRG. 75-14-42
22	PRIMER, SYNTHETIC, LACQUER-RESISTING	3-183	DRG. 75-4-92
23			
24	SHELL, STEEL, MANUFACTURED FROM FORGINGS	50-30-1	DRG. 75-4-92
25	SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR	100-2	50-30-1
26	STEEL, SHEETS AND STRIPS, CARBON AND ALLOY	57-136	DRG. 75-4-92
27			
28			
29			
30			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

SUPERSEDES OLD TRACING 75-4-92A
UNDER REVISION DATE OF JUNE 16, 1944

SHELL, H.E., 240-MM, M114			
LIST OF PARTS AND			
LIST OF SPECIFICATIONS			
APRIL 21, 1941		CLASS	DIVISION
REVISIONS		75	4
3	5-26-42		92A
4	6-16-44		
5	6-2-45		
6	8-15-45		
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
DECIMAL ±			
FRACTIONAL ±			
ANGULAR ±			
DRG. PERTAINS TO			
DFTSMAN K.L.M.			
CHECKER K.L.M.			
SUBMITTED: <i>Angall</i>			
EXAMINED: <i>L.M. Bachelor</i>			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>C.S. Reed</i>			
ORDNANCE DEPT., U.S.A.			



(c) ALTERNATIVE MATERIAL: STEEL CASTING OR MALLEABLE IRON CASTING.

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HEREON, SHALL NOT APPLY.

SCALE: $\frac{1}{4}, \frac{1}{2}, 1, 2$

(C) DESIGN SHOWN NOT MANDATORY.
(d) ADVISORY ONLY.

SHELL, H.E. 155MM, M107 & M107BI, METAL PARTS ASSEMBLY, LIST OF PARTS AND LIST OF SPECS					
JULY 31, 1941		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	4	99	
1	11-28-41				
2	12-7-42				
3	4-11-44				
4	8-15-45				
		TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
		DECIMAL 2			
		FRACTIONAL 2			
		ANGULAR 2			
DRG. PERTAINS TO					
75-14-307		DTFMAN H.T.L. CHECKER	TRACER <i>[Signature]</i> 10/10/41	ENGINEER <i>[Signature]</i> 10/10/41	
		SUBMITTED <i>H. P. Wagner</i> LT. COL., ORD. DEPT. U. S.			
		EXAMINED: <i>[Signature]</i> LT. COL., ORD. DEPT. U. S.			
		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>[Signature]</i>			
		BRIG. GEN. ORD. DEPT. U. S.			
D		ORDNANCE DEPT. U. S. A.			

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQD. PER ASSEMBLY	PIECEMARK	MATERIAL			APPROX. UNIT WEIGHT (POUNDS)	APPROX. GROSS WGT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	METAL PARTS SHIPPING ASSEMBLY		75-4-101F				AXS-661	90.81	
2									
3	BAND, ROTATING	1	75-4-101E		GILDING METAL		50-27-1	2.22	
4	BODY, PROJECTILE	1	75-4-101A		STEEL			76.40	
5									
6	CAP	1	75-4-101B	FORGING	STEEL			5.27	(a)(c)
7									
8	GROMMET ASSEMBLY	1	75-14-371D					.70	
9									
10	PLUG, FUZE HOLE	1	75-4-101D	BAR OR MOLDED	PLASTIC		AXS-698	1.40	
11									
12									
13	WINDSHIELD	1	75-4-101C		DRAWN STEEL	WD1010(h)	57-136	4.82	(b)
14									
15					FLUX, NONACID		83-12		
16									
17					PRIMER, SYNTHETIC		AXS-946		
18					SOLDER, LOW-MELTING POINT	A	57-98		(d)
19					PAINT, ACID-PROOF, BLACK		3-106		
20					INK, MARKING, WHITE		36-2		
21					SILVER SOLDER	GLASS 4	AXS-741		

- (h) TEST SECTION INDICATED ON WINDSHIELD 3/4" HIGH MUST WITHSTAND A TOTAL COMPRESSION LOAD OF 70,000 LBS. WITH A MAXIMUM DECREASE IN LENGTH OF .025 INCH DUE TO DEFLECTION WHILE UNDER LOAD. MEASUREMENTS SHOULD BE AT FOUR EQUIDISTANT POINTS AROUND THE PERIPHERY AND THE AVERAGE DEFLECTION AT THESE FOUR POINTS SHALL BE TAKEN AS THE TOTAL DEFLECTION. THE MATERIAL OF THE WINDSHIELD WILL BE IN ACCORDANCE WITH SPECIFICATION 57-136, WD1010, BUT THE CARBON CONTENT MAY BE VARIED TO OBTAIN THE NECESSARY DRAWING PROPERTIES AND MEET THE PRESCRIBED COMPRESSION TESTS.
- (i) CAP MAY BE MADE BY ANY OTHER METHOD APPROVED BY THE CHIEF OF ORDNANCE.
- (j) THE WELDED OR BRAZED JOINT OF THE WINDSHIELD FABRICATION MUST WITHSTAND A COMPRESSION LOAD AT LEAST EQUAL TO THAT REQUIRED OF THE TEST SECTION OF THE WINDSHIELD.
- (k) SUBSTITUTE MATERIAL: MALLEABLE IRON CASTING, TYPE "A", SPEC. QQ-I-666.
- (l) ALTERNATIVE MATERIAL: A SOLDER OF CHEMICAL COMPOSITION, 22% ± 1% TIN, 22% ± 1% LEAD, 56% ± 1% BISMUTH, AND 96°C. MELTING POINT.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-4-101
2			
3	BLANKS, ROTATING BAND FOR PROJECTILES	50-27-1	DRG. 75-4-101
4			
5	FLUX, NONACID	83-12	DRG. 75-4-101
6			
7	CLEANING AND PREPARATION OF METAL SURFACES, ETC.	AXS-1245	DRG. 75-4-101
8			
9	IRON, MALLEABLE CASTINGS	QQ-I-666	DRG. 75-4-101
10	PRIMER, SYNTHETIC, LACQUER-RESISTING	AXS-946	DRG. 75-4-101
11			
12	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-107
13			
14			
15	PAINT, ACID PROOF BLACK, FOR AMMUNITION	3-106	DRG. 75-4-101
16			
17	PAINTS AND RELATED MATERIALS, GENERAL SPECS. FOR	3-1	3-106
18	PLASTIC, MOLDED COMPOUND FOR AMMUNITION	AXS-698	DRG. 75-4-101
19	PROJECTILE, 155MM., A.P., M112, M112B1 AND M112B2	AXS-661	DRG. 75-4-101
20	INK, MARKING, (FOR MARKING AMMUNITION)	36-2	DRG. 75-4-101
21	PLASTIC, ORGANIC, GENERAL SPECS FOR	L-P-406	AXS-698
22			
23	SOLDER, LOW MELTING POINT	57-98	DRG. 75-4-101
24	SILVER SOLDER	AXS-741	DRG. 75-4-101
25	SHIPMENTS, MARKING, STANDARD SPECIFICATION FOR	100-2	AXS-946
26	STEEL, SHEET OR STRIP CARBON AND ALLOY	57-136	DRG. 75-4-101
27	STEEL, CARBON AND ALLOY, BARS	57-107	DRG. 75-4-101
28			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

CLASSIFICATION CHANGED TO RESTRICTED
BY AUTHORITY OF OCM 26584
BY LT. COL. *Amgall* 8-15-45

PROJECTILE, A.P., 155MM., M112 AND M112B1. LIST OF PARTS AND LIST OF SPECS.			
OCTOBER 20, 1941	CLASS	DIVISION	DRAWING
REVISIONS	75	4	101A
1 12-16-41			
2 5-20-42			
3 6-2-43			
4 8-15-45			
DRG. PERTAINS TO			
75-4-101	DESIGNED	TRACED	LOC. DESIGNED
	KL.B.A.M.P.	KL.B.	KL.B.
SUBMITTED: <i>Amgall</i>			
EXAMINED: <i>Amgall</i>			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>Amgall</i>			
D			
ORDNANCE DEPT. U.S.A.			

RESTRICTED

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE Espionage Laws, U.S.C. 501 AND 502. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE- MARK	LIST OF PARTS				APPROXIMATE WEIGHT (POUNDS)	APPROX GROSS WT OF RAW STOCK MATERIAL ASSEMBLED	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NO.			
1	METAL PARTS ASSEMBLY M84BI		75-4-105B				AXS-877	23.76		
2	BAND, ROTATING	1	75-4-111B	TUBING	GILDING METAL	CLASS B	50-27-1	.45		
3										
4	BODY, SHELL M84BI	1	75-4-111D	FORGING	STEEL	WD 853	5T-104-2	21.02		(d)
5										
6	GASKET	1	75-4-111E	STRIP	COPPER	CLASS A	QQ-C-501	.08		(b)
7										
8	PLATE, BAFFLE	1	75-4-111H	STRIP	STEEL, COLD-ROLLED	WD1010 TO WD1035	5T-136	.23		(Pa)(Py)
9	PLUG, BASE	1	75-4-111C	BAR	STEEL	WD1035 TO WD1045	5T-107	1.98		(a)
10										
11					GREASE, SHELL		50-11-37			
12										
13					LACQUER ENAMEL, BLUE GRAY	I	JAN-L-73			(c)
14					PAINT ACID-PROOF BLACK	TYPE I	3-106			(c)(e)
15										
16										
17										

(a)- ALTERNATIVE - STEEL, PLATE, WD1035 TO WD1045 CHEMICAL COMPOSITION TO BE IN ACCORDANCE WITH SPEC. 5T-107 OR STEEL CROSS FORGED WD1010, OR WD1035 SPEC. 5T-105
 (b)- ALTERNATIVE - COMMERCIAL BRASS, STRIP COMPOSITION "C," SOFT, SPEC. QQ-B-611
 (c)- ALTERNATIVE - ENAMEL BLUE-GRAY, GRADE I, SPEC. JAN-E-74
 (d)- SPEC. 5T-104-1 IS MANDATORY FOR MATERIAL FOR FORGING.
 (e)- ALTERNATIVE - LACQUER ENAMEL, BLUE GRAY, GRADE I, JAN-L-73
 (f)- FINISHES PROTECTIVE FOR IRON AND STEEL PARTS SPEC. 5T-O-2
 (Pa) TYPE I, LS OR LSC
 (Py) TYPE I, OS

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM GEN SPEC. FOR	50-0-1	DRG 75-4-111
2	BLANKS, ROTATING BAND, FOR PROJECTILES	50-27-1	DRG 75-4-111
3	BRASS, COMMERCIAL; BARS, PLATES, RODS, SHAPES, SHEET & STRIPS	QQ-B-611	DRG 75-4-111
4	CLEANING AND PREPARATION OF METAL SURFACES	AXS-1245	DRG 75-4-105
5	COPPER; BARS, PLATES; RODS, SHAPES, SHEETS, AND STRIPS	QQ-C-501	DRG 75-4-111
6	FORGINGS, LIGHT, DROP AND MISCELLANEOUS, STEEL, ETC	5T-105	DRG 75-4-111
7	GREASE, SHELL	50-11-37	DRG 75-4-111
8	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DRG 75-4-111
9			
11	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DRG 75-4-105
12	FINISHES, PROTECTIVE, FOR IRON AND STEEL PARTS	5T-O-2	DRG 75-4-111
13			
14	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	5T-107
15			
16	PAINT, ACID-PROOF BLACK, FOR AMMUNITION	3-106	DRG 75-4-105
17	PAINTS AND RELATED MATERIALS GENERAL SPEC'S. FOR	3-1	3-162
18	SHELL, SMOKE, BASE EJECTION TYPE, METAL PARTS FOR	AXS-877	DRG 75-4-105
19			
20	FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL	5T-104-2	DRG 75-4-111
21	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG 75-4-105
22	STEEL, CARBON AND ALLOY, BARS	5T-107	DRG 75-4-111
23	STEEL, CARBON AND ALLOY, SHEETS AND STRIPS	5T-136	DRG 75-4-111
24	STEEL, FORGING; FOR SHELL STOCK	5T-104-1	DRG 75-4-111
25			

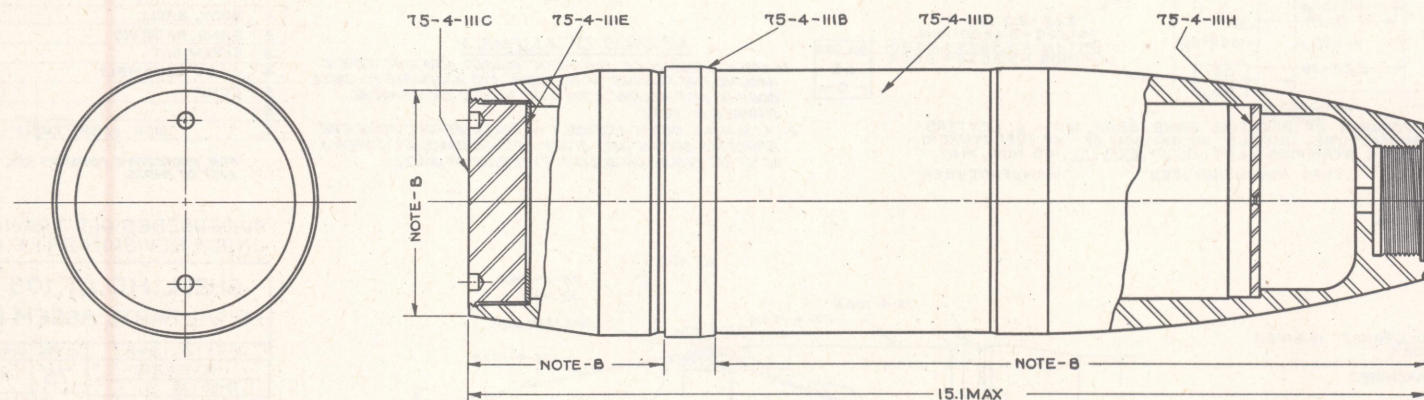
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

WEIGHTS		DESIGN DATA	
PARTS	M84BI POUNDS	PART	POUNDS
BODY, SHELL	21.02	METAL PARTS ASSEMBLY	23.76
BAND, ROTATING	.45	CHARGE BURSTING	.14
GASKET	.08	SPACERS (4 REQUIRED)	.04
PLATE, BAFFLE	.23	SMOKE ASSEMBLY (3)	7.50
PLUG, BASE	1.98	FILLER	.01
TOTAL	23.76 ± .60	FUZE, TIME & S.Q., M54	1.42
		TOTAL	32.87

LIST OF DRAWINGS	DRAWING NUMBER
METAL PARTS ASSEMBLY	75-4-105
DETAILS	75-4-111
BLANKS ROTATING BAND TYPE 105A	(e) 75-14-41

(e) DESIGN SHOWN NOT MANDATORY.

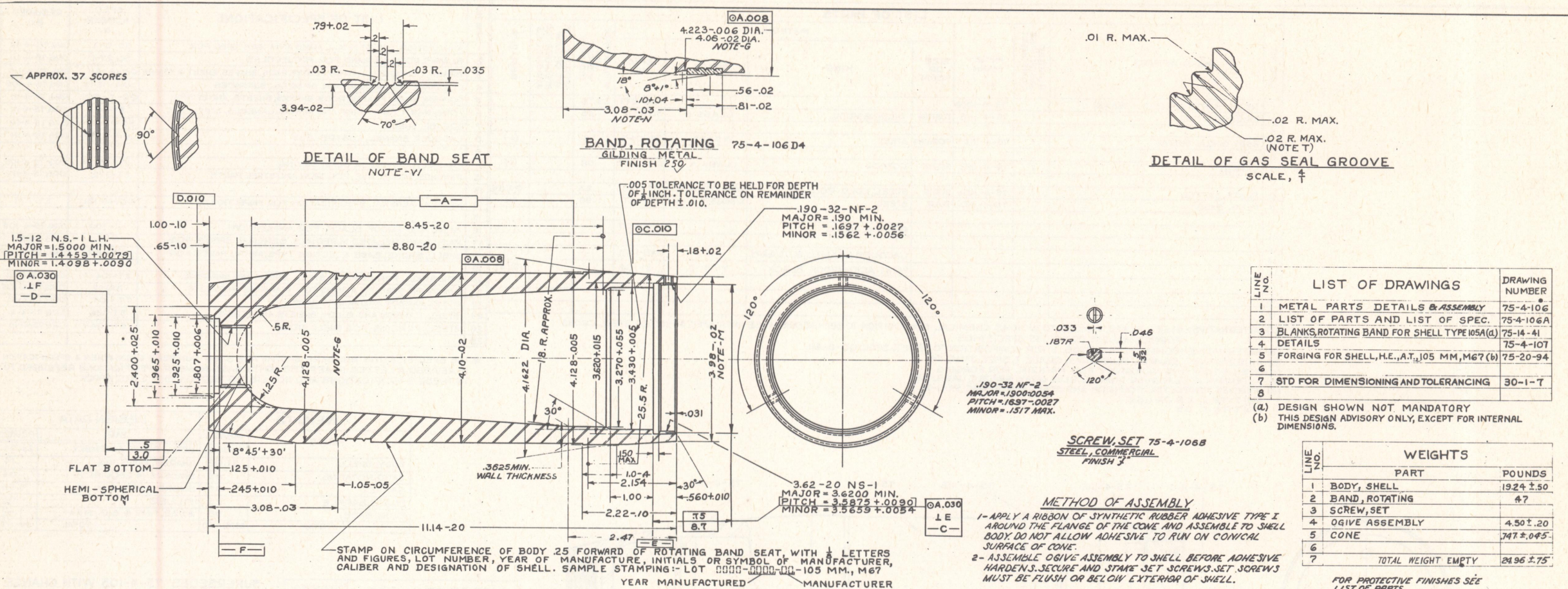
SUPERSEDES 75-4-105 WITH CHANGE AUG. 15, 1945



NOTES:-
 A- COAT INTERIOR SURFACE OF BASE PLUG AND SHELL BODY, EXCEPT THREADS AND BASE PLUG SEAT WITH ACIDPROOF BLACK PAINT, TYPE I, OR BLUE GRAY LACQUER ENAMEL OR ENAMEL.
 B- COAT ENTIRE EXTERIOR SURFACE, EXCEPT ROTATING BAND WITH BLUE GRAY LACQUER ENAMEL OR ENAMEL.
 D- SHIP BASE PLUG, GASKET AND BAFFLE PLATE UNASSEMBLED

SCALE 1

SHELL, SMOKE 105 MM, M84BI BASE EJECTION METAL PARTS ASSEMBLY			
FEBRUARY 16, 1942	CLASS	DIVISION	DRAWING FILE
REVISIONS	75	4	105
4 8-15-45	TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±		
DRG. PERTAINS TO	OFFSEMAN A.F.H.	TRACER A.F.H.	ORD. ENGINEER A.F.H.
SUBMITTED	SUBMITTED		
EXAMINED: <i>W.D. Stevenson</i> ORD. DEPT. U.S.A.			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>A. Adelman</i> ORD. DEPT. U.S.A.			
D			
ORDNANCE DEPT. U.S.A.			



LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS DETAILS & ASSEMBLY	75-4-106
2	LIST OF PARTS AND LIST OF SPEC.	75-4-106A
3	BLANKS, ROTATING BAND FOR SHELL TYPE 105A(4)	75-4-41
4	DETAILS	75-4-107
5	FORGING FOR SHELL, H.E., A.T., 105 MM, M67 (b)	75-20-94
6		
7	STD FOR DIMENSIONING AND TOLERANCING	30-1-7
8		

(a) DESIGN SHOWN NOT MANDATORY
(b) THIS DESIGN ADVISORY ONLY, EXCEPT FOR INTERNAL DIMENSIONS.

LINE NO.	WEIGHTS	POUNDS
1	BODY, SHELL	19.24 ± .50
2	BAND, ROTATING	.47
3	SCREW, SET	
4	OGIVE ASSEMBLY	4.50 ± .20
5	CONE	747 ± .045
6		
7	TOTAL WEIGHT EMPTY	24.96 ± .75

FOR PROTECTIVE FINISHES SEE LIST OF PARTS.

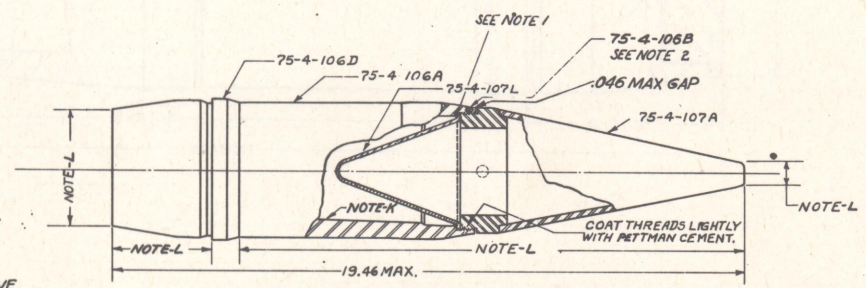
SUPERSEDES OLD TRACING 75-4-106 UNDER REVISION DATE OF SEPT. 9, 1944

SHELL, HE, AT, 105 MM, M67 METAL PARTS ASSEM. & DETAILS.

MAY 4, 1942	CLASS	DIVISION	DRAWING	FILE
75	4	106		
1 3-22-43				
2 9-9-44				
3 8-15-45				
4 5-12-49				
5 7-19-50				
DRG. PERTAINS TO				
CHECKER	E.F.L.	E.F.L.		
SUBMITTED				
EXAMINED				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
75-4-106A				
D				

NOTES:-
A- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
B- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES.
C- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
D- BEFORE PAINTING, CLEAN SHELL SURFACES IN ACCORDANCE WITH GRADE I, SPEC JAN-C-490.

E- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
G- BAND RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDING.
H- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET SHALL NOT EXCEED .044.
K- COAT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE 1 OR 2 (EXCEPT THREADS) THREADS MAY SHOW TRACES OF PAINT PROVIDING THEY PASS GAGES.
L- COAT ENTIRE EXTERIOR SURFACE OF SHELL (EXCEPT ROTATING BAND) WITH ONE COAT OF LACQUER ENAMEL OR ENAMEL OLIVE DRAB.
M- UNION MUST BE FLUSH, OR MUST OVERLAP SHELL BODY OGIVE (398-.02 DIA) ON ENTIRE CIRCUMFERENCE.
N- REAR FACE OF ROTATING BAND SHALL BE ±.02 FROM REAR EDGE OF BAND SEAT.
Q- REMOVE ALL BURRS.
R- .025 MAX FLAT PERMITTED WHEN MEASURED FROM BASE OF SHELL.
W- RIBS HAVING DEFECTIVE SECTIONS NOT OVER 10% OF TOTAL LENGTH OF ALL RIBS WILL BE ACCEPTABLE. ACCUMULATED LENGTH OF DEFECTIVE OR MISSING RIBS MAY BE CONFINED TO ONE RIB, OR MAY BE DISTRIBUTED OVER ALL RIBS.
X- BOURRELET, AFTER PAINTING, SHALL PASS 4.130 RING GAGE.



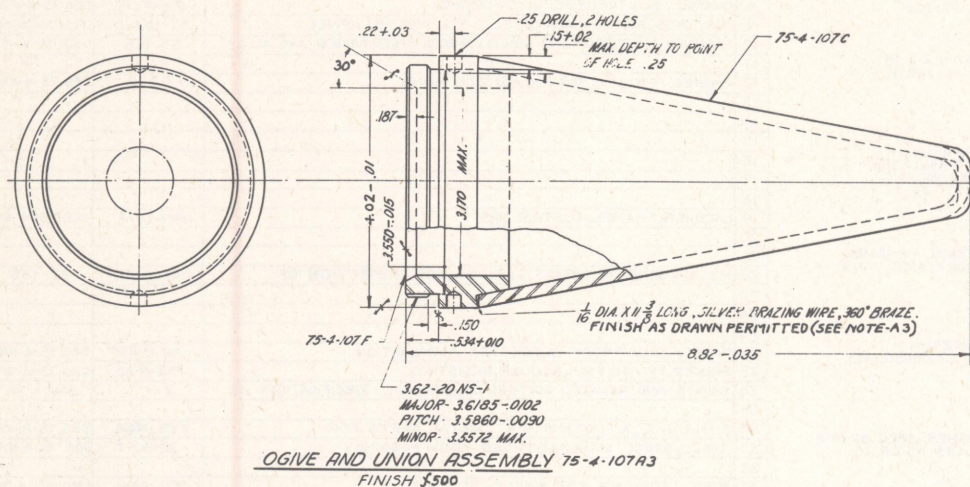
LIST OF PARTS									
LINE NUMBER	NAME OF PART	NUMBER REQ'D. PER COMPONENT	PIECEMARK	MATERIAL			APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	METAL PARTS ASSEMBLY		75-4-106F					24.96±.75	
2	OGIVE AND UNION ASSEMBLY		75-4-107A					4.50±.20	
3									
4									
5									
6	BAND, ROTATING	1	75-4-106D	TUBING	GILDING METAL	ANNEALED	50-27-1	.47	
7	BODY, SHELL	1	75-4-106A	FORGING 75-20-94	STEEL	WD.55-3	57-104-2	1.9±.24 ±.16	(b)
8									
9									
10									
11									
12	CONE	1	75-4-107L	SHEET	COPPER	SOFT	QQ-C-501	747±.045	
13									
14									
15	OGIVE	1	75-4-107C	SHEET	STEEL, COLD ROLLED, ANNEALED	WD.1010 OR 1015	57-136		(c)
16									
17									
18									
19									
20									
21									
22									
23	SCREW, SET	3	75-4-106B	BAR	STEEL, .190 DIA. (32NF-2) × 5/32		COMMERCIAL		(pa)
24									
25									
26	UNION, OGIVE	1	75-4-107F	TUBING	STEEL	WD.1015	57-180		(a)
27									
28									
29									
30									
31									
32									
33					LACQUER ENAMEL, OLIVE DRAB	I	JAN-L-73		(k)
34									
35					PAINT, ACID-PROOF BLACK	TYPE I OR II	JAN-P-450		
36					ADHESIVE, SYNTHETIC RUBBER	TYPE I	62-4		
37					SYNTHETIC PRIMER		JAN-P-72		
38									
39									
40					SOLDER, SILVER WIRE	CLASS 4	QQ-3-561		(m)
41									
42					FLUX, BRAZING (SILVER)		4-1121		
43					CEMENT, PETTMAN		JAN-C-99		
44									
45									
46									
47									
48									
49									
50									
51									
52									
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62									
63									
64									
65									
66									
67									

- (a) ALTERNATIVE MATERIAL:-
STEEL FORGING WD.1015 TO
WD.1035 OR WDX 1314 TO
WDX 1315, SPEC. 57-105
- (b) SPECIFICATION 57-104-1 IS
MANDATORY FOR MATERIAL
FOR FORGING
- (c) ALTERNATIVE MATERIAL:-
SHEET STEEL, HOT ROLLED,
ANNEALED, PICKLED, WD.1010
OR WD.1015 SPEC. 57-136
- (K) ALTERNATIVE MATERIAL:- ENAMEL,
OLIVE DRAB, GRADE I, SPEC. JAN-E-74.
- (m) ALTERNATIVE MATERIAL:-
COPPER BRAZE (COMMERCIAL)
- (p) PROTECTIVE FINISHES, SPEC. 57-0-2
(pa) TYPE I CLASS RS OR TS

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER	REQUIRED BY
1	ADHESIVE, SYNTHETIC RUBBER (HOT OR COLD BONDING)	62-4	DRG 75-4-106
2	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECS. FOR	50-0-1	DRG 75-4-106
3			
4	COPPER, BARS, PLATES, RODS, SHAPES, SHEETS, AND STRIPS	QQ-C-501	DRG 75-4-107
5	BLANKS, ROTATING BAND, FOR PROJECTILES	50-27-1	DRG 75-4-106
6	CLEANING AND PREPARATION OF FERROUS METAL SURFACES FOR ORGANIC PROTECTIVE COATINGS	JAN-C-490	DRG 75-4-106
7	CEMENT, PETTMAN	JAN-C-99	DRG 75-4-107
8	ENAMEL, LUSTRELESS, QUICK-DRYING.	JAN-E-74	DRG 75-4-106
9	FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2	DRG 75-4-106
10	FORGINGS, LIGHT, DROP AND MISCELLANEOUS STEEL, CARBON AND ALLOY	57-105	DRG 75-4-107
11			
12	FINISHES, PROTECTIVE, FOR IRON AND STEEL PARTS	57-0-2	DRG 75-4-106
13			
14			
15			
16			
17			
18			
19	LACQUER, ENAMEL, LUSTRELESS.	JAN-E-73	DRG 75-4-106
20			
21			
22	METALS, GENERAL SPECIFICATIONS FOR INSPECTION OF	QQ-M-151	57-136
23			
24			
25			
26	PAINT, ACID-PROOF, BLACK FOR AMMUNITION	JAN-P-450	DRG 75-4-106
27	PRIMER, SYNTHETIC, LACQUER, RESISTING.	JAN-P-72	DRG 75-4-107
28	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	JAN-L-73
29			
30	SHELL, H E, AT, 105 MM, M67, METAL PARTS FOR	PX5-988	DRG 75-4-106
31	SHELL, STEEL, MANUFACTURED FROM FORGINGS	50-30-1	DRG 75-4-106
32			
33	STEEL, FORGING FOR SHELL STOCK	57-104-1	DRG 75-4-106
34	STEEL, CARBON AND ALLOY, SHEETS AND STRIPS	57-136	DRG 75-4-107
35	SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR	100-2	PX5-988
36			
37	TUBING, MACH. OR STRUCT. STEEL, CARBON & ALLOY, SEAMLESS, WELDING & BRAZ.	57-180	DRG 75-4-107
38	SOLDER, SILVER	QQ-3-561	DRG 75-4-107
39	FLUX, BRAZING, (SILVER)	4-1121	DRG 75-4-107
40			
41			
42			
43			

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SHELL, H E, AT, 105 MM, M67			
LIST OF PARTS AND LIST OF SPECIFICATIONS			
MAY 4, 1942		CLASS	DIVISION DRAWING FILE
REVISIONS		75	4 106A
1	3-22-43		
2	9-9-44		
3	8-15-45		
4	5-12-49		
5	7-19-50		
SYMBOL			
DFTSMAN	TRACER	L'OG DFTSMAN	
VF	FELIX KURTH	W. C. Menden	
CHECKER	CHECKER	CHIEF DFTSMAN	
TS	TS	TS	
SUBMITTED:-			
DRG PERTAINS TO			
EXAMINE D:			
L. T. COL. ORD. DEPT. U.S.A.			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
COL. ORD. DEPT. U.S.A.			
D		ORDNANCE OFFICE, WAR DEPT.	



NOTES:-

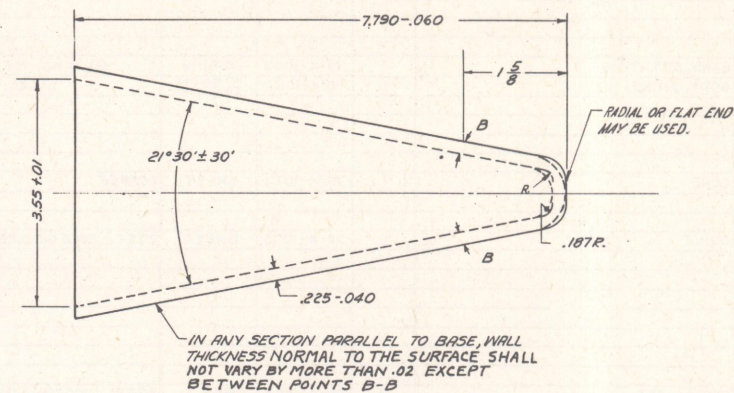
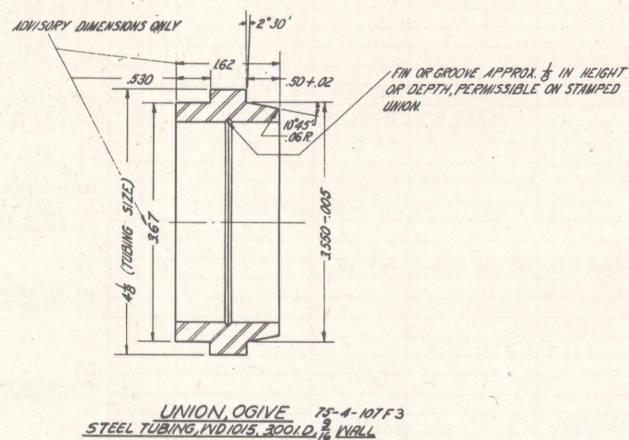
A- FOR 75-4-107A ONLY

- 1 - COAT INTERIOR SURFACE WITH ONE COAT SYNTHETIC PRIMER AND EXTERIOR SURFACE WITH ONE COAT LACQUER ENAMEL OR ENAMEL, OLIVE DRAB (EXCEPT THREADS). THREADS MAY SHOW TRACES OF PAINT PROVIDING THEY PASS GAGES.
- 2 - PERMISSIBLE ECCENTRICITY BETWEEN PITCH DIAMETER OF THREADS AND ANY POINT ON EXTERIOR SURFACE OF OGIVE AND UNION ASSEMBLY, .015 INCH (b)
- 3 - OGIVE MUST BLEND WITH UNION FLANGE AFTER ASSEMBLY (SEE NOTE C)

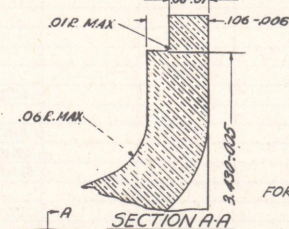
B- FOR 75-4-107L ONLY

- (d) THICKNESS (MEASURED PERPENDICULAR TO CONE SURFACE) OF THE CONE WALL BETWEEN PLANES THROUGH POINTS B AND A SHALL BE .103 ± .006
- (e) THICKNESS (MEASURED PERPENDICULAR TO CONE SURFACE) OF WALL SHALL NOT VARY MORE THAN .006 IN 360° AT ANY GIVEN PLANE (PARALLEL TO SURFACE "D" OF FLANGE) BETWEEN POINTS B AND A
- (f) COAT INTERIOR AND EXTERIOR SURFACES WITH ACID-PROOF BLACK PAINT, TYPE I OR II.

C- CONICAL CONTOUR IS PERMITTED AT FORWARD END OF UNION FLANGE BUT SHALL NOT EXTEND ON TO THE FLANGE FOR MORE THAN 1/8 INCH.



OGIVE 75-4-107C3
STEEL SHEET, STD 1010 OR STD 1015, COLD ROLLED,
RINNELED (DULL OR REGULAR BRIGHT FINISH).
THICKNESS BETWEEN POINTS B-B, .225-.071
FOR STAMPED OR DRAWN OGIVE.

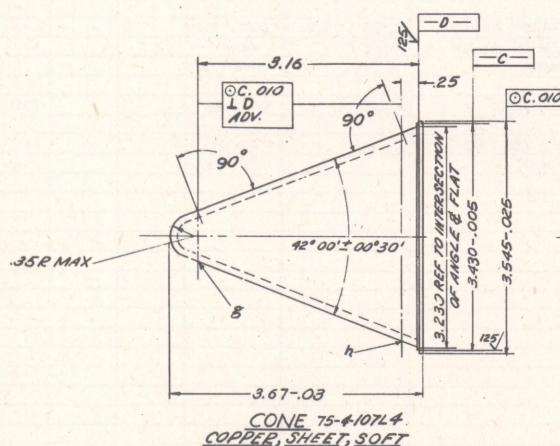


FOR ALTERNATIVE MATERIALS, SEE LIST OF PARTS.

SUPERSEDES OLD TRACING 75-4-107,
UNDER REVISION DATE OF SEPT. 9, 1944.
SHELL, H E, A T, 105 MM, MG7.

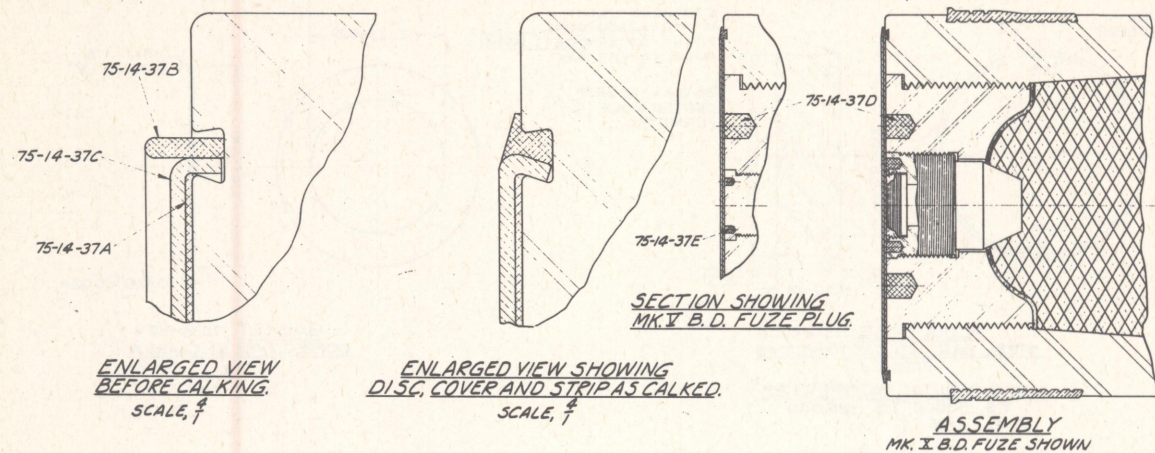
DETAILS

DATE	CLASS	DIVISION	DRAWING	FILE
MAY 4, 1942	75	4	107	
REVISIONS				
1	3-22-43			
2	9-9-44			
3	8-15-45			
4	7-19-50			
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRG. PERTAINS TO				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
75-4-106A				
D				
ORDNANCE DEPT., U. S. A.				



DEPT. OF ARMY, ORD. DEPT., PICTATNY ARSENAL
CLASSIFICATION CANCELLED
BY AUTHORITY OF THE CHIEF OF ORDNANCE
E. J. HESLEY, CAPT. O. D. SECURITY OFFICER
DATE 9-14-90 BY 204/204

SCALE 1/10



LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE-MARK	MATERIAL				APPROXIMATE WEIGHT (POUNDS)	APPROX. GRADE OF STEEL PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER			
1	ASSEMBLY									
2	COVER	1	75-14-37C	SHEET	COPPER	CLASS "A"	QQ-C-501			
3	DISC	1	75-14-37A	SHEET	LEAD	B	QQ-L-201			
4	FILL, FUZE HOLE PLUG WRENCH HOLE	2	75-14-37E	SHEET	LEAD	B	QQ-L-201			
5	FILL, BASE PLUG WRENCH HOLE	2	75-14-37D	SHEET	LEAD	B	QQ-L-201			
6	STRIP, CALKING	1	75-14-37B	SHEET	LEAD	B	QQ-L-201			

SEE TOTAL WEIGHTS COLUMN IN TABLE OF DISCS, COVERS, ETC.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-37
2	COPPER, BARS, PLATES, RODS, SHAPES, SHEETS AND STRIPS	QQ-C-501	DRG. 75-14-37
3	LEAD, SHEET	QQ-L-201	DRG. 75-14-37
4	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	QQ-L-201

*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

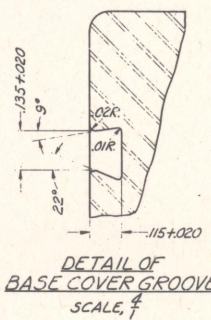
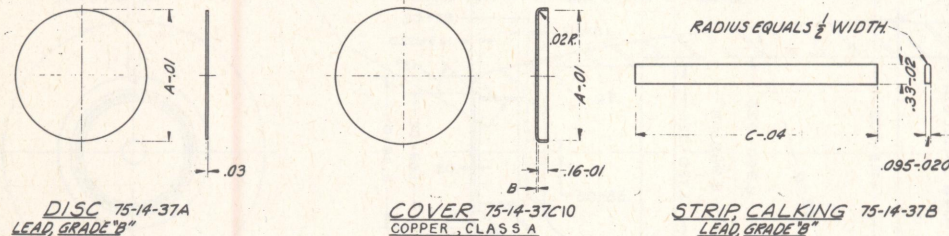


TABLE OF DISCS, COVERS, CALKING STRIPS, BASE PLUG WRENCH HOLE AND FUZE WRENCH HOLE PLUG FILLS

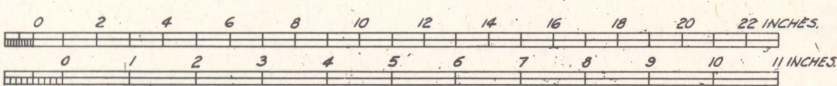
CALIBER	PROJ. DRG. NO.	PROJ. ASSY. DRG. NO.	BASE COVER TYPE	DIMENSIONS							TOTAL WT. LBS.
				A	B	C	D	E	F	G	
3 IN. S.C.G.	75-5-48		II	2.25	.03	7.60			.19	.28	.19
6 IN. S.C.G.	75-7-1	75-14-314	VII	4.90	.03	15.94	.435	.57	.19	.28	.70
6 IN. G.	75-7-3		VII	4.90	.03	15.94	.435	.57	.19	.28	.70
6 IN. G.	75-7-42		VII	4.90	.03	15.94					.62
155 MM. G.	75-4-101		VII	4.90	.03	15.94			.30	.40	.63
155 MM. G.	75-4-36		VI	4.25	.03	13.90					.46
155 MM. G.	75-4-80		VI	4.25	.03	13.90					.46
155 MM. H.W.	75-4-25		VI	4.25	.03	13.90					.46
155 MM. H.W.	75-4-37		VII	4.90	.03	15.94					.62
155 MM. H.W.	75-4-57		VI	4.25	.03	13.90					.46
155 MM. H.W.	75-4-82		VI	4.25	.03	13.90					.46
8 IN. H.W.	75-4-23		IX	6.50	.05	21.10					1.23
8 IN. H.W.	75-4-76		VII	4.90	.03	15.94					.62
8 IN. G.	75-4-23		IX	6.50	.05	21.10					1.23
8 IN. G.	75-8-3		IX	6.50	.05	21.10	.61	.76	.24	.30	1.42
8 IN. G.	75-8-4		IX	6.50	.05	21.10	.72	1.10	.24	.30	1.60
8 IN. G.	75-4-87		VII	4.90	.03	15.94					.62
8 IN. G.	75-4-259	75-14-259	IX	6.50	.05	21.10	.62				1.32
8 IN. G.	75-4-259	75-14-259	IX	6.50	.05	21.10	.64	.30	.40	1.36	1.77
240 MM. H.W.	75-4-72		IX	6.50	.05	21.10					1.23
10 IN. S.C.G.	75-9-1		X	8.00	.05	25.80	.72	1.10	.24	.30	2.15
10 IN. S.C.G.	75-9-15		X	8.00	.05	25.80	.72	1.10	.24	.30	2.15
10 IN. S.C.G.	75-9-16		X	8.00	.05	25.80					2.15

TABLE (CONTINUED)

CALIBER	PROJ. DRG. NO.	PROJ. ASSY. DRG. NO.	BASE COVER TYPE	DIMENSIONS							TOTAL WT. LBS.
				A	B	C	D	E	F	G	
12 IN. MONTAG	75-10-26		XI	10.625	.05	34.06	.72	1.10	.24	.30	3.36
12 IN. MONTAG	75-10-27		XI	10.625	.05	34.06	.72	1.10	.24	.30	3.36
12 IN. MONTAG	75-12-3		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-4		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-24		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-29		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-30		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-41		XI	10.625	.05	34.06	.72	1.10	.24	.30	3.36
12 IN. MONTAG	75-12-42		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. MONTAG	75-12-46		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-1		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-3		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-13		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-20		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-21		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-22		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-27		XI	10.625	.05	34.06	.72	1.10	.24	.30	3.36
12 IN. S.C.G.	75-10-29		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-34		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-35		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-36		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-37		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-39		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-40		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-11-42		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-11-43		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-11-44		XI	10.625	.05	34.06	.72	1.10			3.35
12 IN. S.C.G.	75-10-45		XI	10.625	.05	34.06	.72	1.10			3.35

TABLE (CONTINUED)

CALIBER	PROJ. DRG. NO.	PROJ. ASSY. DRG. NO.	BASE COVER TYPE	DIMENSIONS							TOTAL WT. LBS.
				A	B	C	D	E	F	G	
14 IN. S.C.G.	75-11-9		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-10		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-11		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-12		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-15		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-16		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-17		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-27		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-32		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-36		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-39		XI	10.625	.05	34.06	.72	1.10			3.35
14 IN. S.C.G.	75-11-44		XI	10.625	.05	34.06	.72	1.10			3.35
16 IN. S.C.G.	75-11-28		XII	13.00	.05	41.50	.72	1.10			4.70
16 IN. S.C.G.	75-11-37		XII	13.00	.05	41.50	.72	1.10			4.70
16 IN. S.C.G.	75-11-43		XII	13.00	.05	41.50	.72	1.10			4.70
16 IN. S.C.G.	75-11-46		XII	13.00	.05	41.50	.72	1.10			4.70
16 IN. S.C.G.	75-14-315		XI	10.625	.05	34.06	.72	1.10			3.35



SUPERSEDES OLD TRACING 75-14-37 AND IN PART 75-14-38 UNDER REVISION DATE OF JULY 20, 1940

COVERS, BASE, AND WRENCH HOLE FILLS FOR PROJECTILES.

APRIL 15, 1941

REVISIONS

5	10-8-18	10	8-15-45
6	7-20-40		
7	11-25-41		
8	1-30-42		
9	3-10-42		

CLASS 75 DIVISION 14 DRAWING 37

SYMBOL

DRG. PERTAINS TO

OFFICER H.P.F. TRACER H.P.F. ENGINEER

CHECKER L.M. CHECKER M.T. CHIEF OF DEPT. U.S.A.

SUBMITTED

EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

ORDNANCE DEPT. U.S.A.

PLUG CLOSING 75-14-40E 8
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM
WT. 31 LB.

PLUG, CLOSING 75-14-40 LB
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM
WT. = .18 LB.

PLUG CLOSING 75-14-40 GB
DIE CASTING ZINC-ALUMINUM-MAGNESIUM
WT. = .37 LB.

PLUG, CLOSING 75-14-40NB
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM.
WT. \approx 19 LB.

PLUG, CLOSING 75-14-40T.
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM.
WT. = 3.05 LBS. 15-12 N

126-02-1105102
PLUG CLOSING 75-14-40BB10
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM
WT. 20 LB.

PLUG, CLOSING 75-14-40Z8
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM
WT. = 25 LB.

PLUG CLOSING 75-14-40BA 8
DIE CASTING, ZINC-ALUMINUM-MAGNESIUM.
WT. = .28 LB.

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL-2	
RED.	
HT. T.	
BR.	
SCL.	
C. C.	

[illegible]

NOTE:
THE ABOVE TABLE SHOWS WHERE VARIOUS PLUGS ARE USED WHEN NEEDED.
PLUGS NOT TO BE ORDERED FROM THIS TABLE.

LIST OF SPECIFICATIONS.

LINE NO.	LIST OF SPECIFICATIONS.	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG.75-14-40
2			
3	CASTING, DIE, ZINC-ALUMINUM-MAGNESIUM ALLOY	57-93-2	DRG.75-14-40
4	METAL; GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-93-2
5			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

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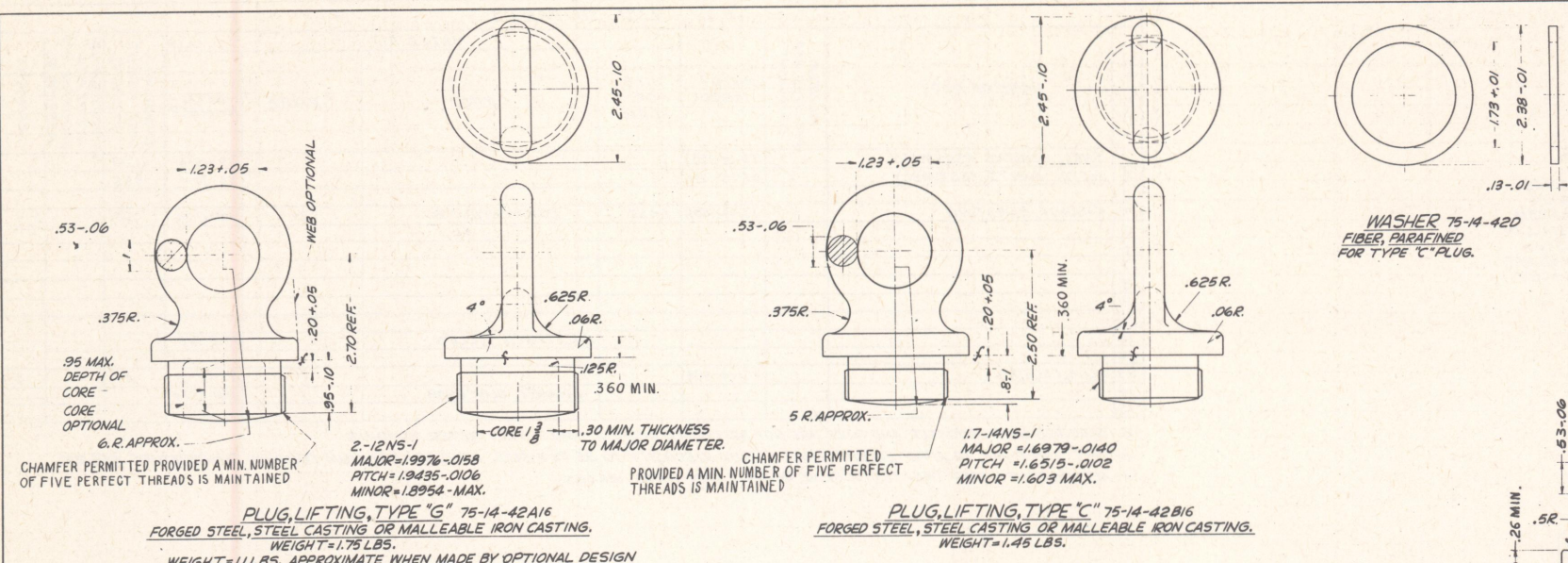
SUPERSEDES OLD TRACING 75-14-40
UNDER REVISION DATE OF NOV. 3, 1938.

PLUGS, CLOSING, FOR
PROJECTILES.

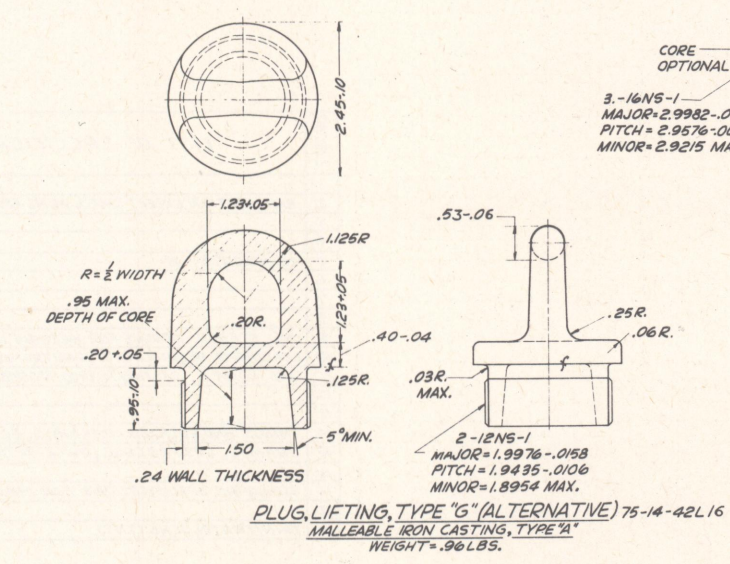
APRIL 2, 1917.		CLASS		DIVISION		DRAWING		FILE	
REVISES		75		14		40			
8 11-3-38		SYMBOL							
9 1-30-39									
10 6-16-41									
		DFTSMAN		TRACER		L.O'S. DFTSMAN			
		MEM.							
		CHECKER		CHECKER		CHIEF DFTSMAN			
				U.S.T.		H.S.O.			
		SUBMITTED.							
		<i>William H. Page</i>							
DRG. PERTAINS TO		MAIL ORD. DEPT. U.S.A.							
		EXAMINED.							
		<i>1st. Mail</i>							
		COL. ORD. DEPT. U.S.A.							
		APPROVED.							
		LT. COL. ORD. DEPT. U.S.A.							
D		ORDNANCE OFFICE, W.N. DEPT.							

BREAK ALL CORNERS WITH .02 R.

SCALE $\frac{1}{7}, \frac{1}{2}$



NOTES:-
 1-ALL PLUGS MUST BE COATED WITH PHOSPHATE COATING, TYPE II, CLASS B, WITH NO OIL OR WITH LINSEED OIL, OR COATED WITH LACQUER, CELLULOSE NITRATE.
 SALT SPRAY TEST NOT MANDATORY.
 2-BOTTOM OF PLUGS MAY BE FLAT OR HAVE RADI, AS SHOWN.
 3-FLASH RIB ALLOWED ON OUTSIDE DIAMETER AND INSIDE DIAMETER OF EYE, OUTSIDE DIAMETER OF FLANGE AND BASE OF PLUG NOT TO EXCEED 1/16". FLASH RIB MUST NOT BE SHARP.

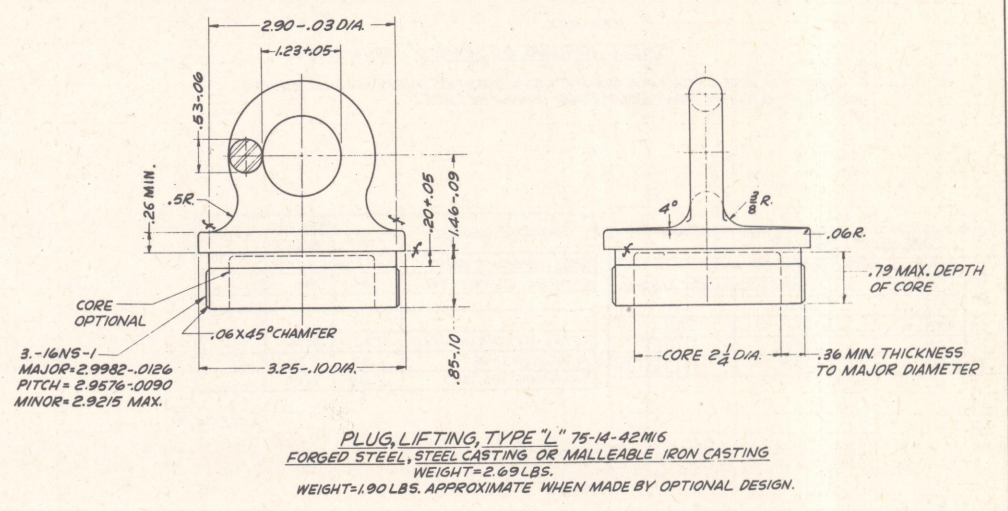


REMOVE ALL BURRS.

SCALE, INCHES, 1/4"

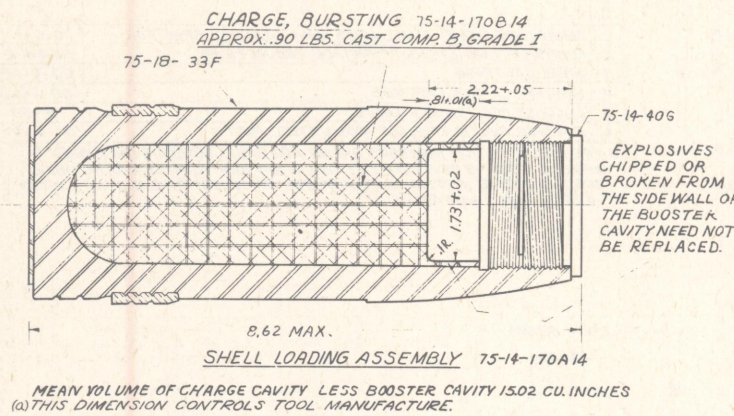
LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-14-42
2	PLUGS, LIFTING (EYEBOLT TYPE) FOR PROJECTILES	50-44-2	DRG. 75-14-42
3	STEEL, CASTINGS	QQ-S-681	50-44-2
4	IRON, MALLEABLE, CASTINGS	QQ-I-666	50-44-2
5	LACQUER, CELLULOSE, NITRATE	3-158	DRG. 75-14-42
6	FINISHES, PROTECTIVE, FOR IRON & STEEL PARTS	57-0-2	DRG. 75-14-42

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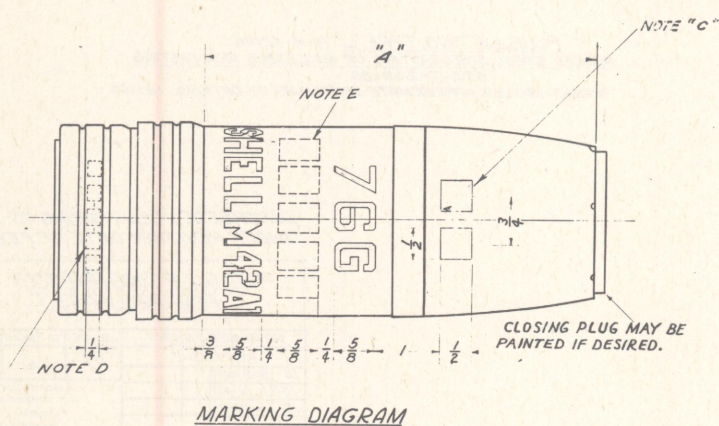
SUPERSEDES OLD TRACING 75-14-42 UNDER REVISION DATE OF FEB. 12-1945

PLUGS, LIFTING (EYEBOLT TYPE) FOR PROJECTILE		CLASS	DIVISION	DRAWING	FILE
NOVEMBER 26, 1917		75	14	42	
REVISIONS					
14	9-8-43				
15	2-12-45				
16	8-15-45				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL 1					
FRACTIONAL 2					
ANGULAR 3					
DRG. PERTAINS TO					
SUBMITTER					
EXAMINER					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE					
C. S. Reed					
COL., ORG. DEPT. U. S. A.					
ORDNANCE DEPT. U. S. A.					



WEIGHT ZONES				
ZONE	LOADED SHELL WITHOUT FUZE		MARK	
	OVER	UP TO & INCLUDING		
	LBS.	LBS.		
1	10.39	10.70		
2	10.62	10.99		
3	10.97	11.28		

APPROX. WEIGHT		POUNDS	
		TNT	COMP. B
SHELL WEIGHT, EMPTY		9.86±.20	9.86±.20
CHARGE, BURSTING		.86	.90
TOTAL WEIGHT, UNFUZED		10.72	10.76
PLUG, CLOSING		.37	.37
SHIPPING WEIGHT		11.09	11.13



NOTES:-
A-RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED WITH OLIVE DRAB ENAMEL. RETOUCHING OF BASE AND SHELL TO REAR OF ROTATING BAND, OPTIONAL.
B-MARK WITH YELLOW STENCIL INK.
C-SAMPLE WEIGHT MARKING.
D-INSERT LOT NUMBER.
E-MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES AS FOLLOWS "TNT" FOR CAST TNT
"COMP. B" FOR CAST COMPOSITION B

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL			APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
					KIND	GRADE	SPEC. NUMBER		
1	SHELL LOADING ASSEMBLY		75-14-170A				50-15-5	11.09	
2	METAL PARTS ASSEMBLY	1	75-18-33F				50-30-1	9.86	
3									
4	CHARGE, BURSTING	1	75-14-170B	CAST	COMPOSITION B	I	JAN-C-401	.90	b, c
5									
6									
7									
8									
9									
10									
11					INK, STENCIL, YELLOW		TT-I-558		
12									
13	PLUG, CLOSING	1	75-14-406				57-33-2	.37	a
14					ENAMEL, OLIVE DRAB	I	JAN-E-74		
15									

a- REQUIRED WHEN BOOSTER AND FUZE ARE NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING
b- SPEC. JAN-C-401 TO APPLY EXCEPT THAT EFFLUX VISCOSITY TO BE 7±2 SECS. ADVISORY: OPTIMUM POURING TEMPERATURE 85±2°C.
c- ALTERNATIVE: CAST TRINITROTOLUENE, GRADE I, JAN-T-248, .86 LBS.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1			
2	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DWG. 75-14-170
3			
4			
5	COMPOSITION B	JAN-C-401	DWG. 75-14-170
6			
7			
8			
9	INK, STENCIL, OPAQUE FOR MARKING NON-POROUS SURFACES (ETC)	TT-I-558	DWG. 75-14-170
10	LOADING OF HE SHELL WITH TRINITROTOLUENE (TNT), 50/50 AMATOL		
11	AND COMP. B, CASTING METHOD, ASSEMBLING AND PACKING	50-15-5	DWG. 75-14-170
12			
13			
14	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	JAN-E-74
15	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DWG. 75-14-170
16			
17	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DWG. 75-14-170
18			
19	TRINITROTOLUENE (TNT)	JAN-T-248	DWG. 75-14-170

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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-170
2	METAL PARTS SHIPPING ASSEMBLY	75-18-33
3	PLUGS, CLOSING, FOR PROJECTILES	75-14-40
4		

SUPERSEDES OLD TRACING 75-14-170.
UNDER REVISION DATE OF MARCH 18, 1943

SHELL, HE, 76-MM, M42A1
LOADING ASSEMBLY, MARKING DIAGRAM
AND DETAILS.

DEC. 5, 1932.	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	170	
9 11-12-41				
10 9-23-42				
11 3-18-43				
12 8-15-45				
13 12-31-48				
14 7-27-50				

DRG. PERTAINS TO

EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

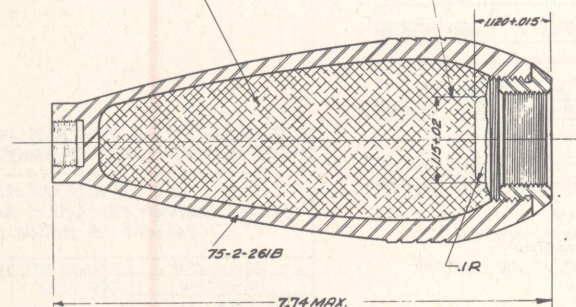
ORDNANCE DEPT. U.S.A.



LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECEMARK	SIZE OR FORM	KIND	GRADE	SPEC. NO.	APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
1	SHELL LOADING ASSEMBLY		75-14-192A				50-15-5	5.52	
2	METAL PARTS SHIPPING ASSEMBLY	1	75-2-261B				50-30-1	4.29	
3									
4									
5	CHARGE, BURSTING	1	75-14-192B	CAST	TRINITROTOLUENE	I	50-15-5	1.23	
6									
7									
8									
9									
10									
11									
12									
13									
14									
15					INK, MARKING, YELLOW		36-2		
16									
17									
18					LACQUER ENAMEL, OLIVE DRAB	I	3-162		(6)

(N)ALTERNATIVE- ENAMEL, OLIVE DRAB GRADE I SPEC. 3-67

CHARGE, BURSTING 75-14-192B
APPROX 1.23 LBS. CAST TNT, GRADE I



SHELL LOADING ASSEMBLY 75-14-192AB
MEAN VOLUME OF CHARGE CAVITY, 21.6 CU. IN.

NOTES:-
A-MARK WITH YELLOW MARKING INK
B-RETOUCH SURFACE OF SHELL WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE DRAB
LACQUER ENAMEL, OR ENAMEL, GRADE I
C-BOURELETT MUST PASS A 3/16" MAX DIAMETER RING GAGE.
D-INSERT LOG NUMBER (INCLUDING LOADER'S INITIALS OR SYMBOL)

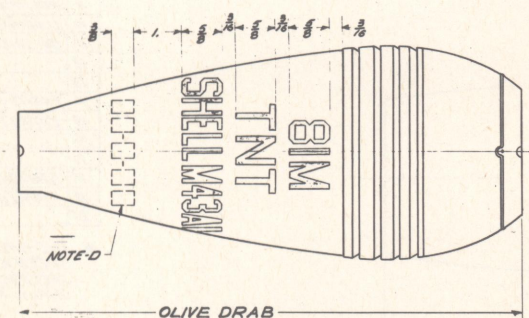
NOTE:-
TNT CHIPPED OR BROKEN FROM THE
SIDE WALL OF THE BOOSTER CAVITY
NEED NOT BE REPLACED.

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-192
2	METAL PARTS SHIPPING ASSEMBLY	75-2-261
3		
4		

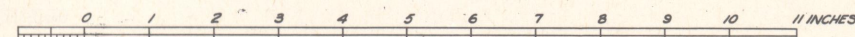
APPROX. WEIGHTS	POUNDS
SHELL WEIGHT, EMPTY	4.29
CHARGE, BURSTING	1.23
TOTAL WEIGHT, UNFUZED	5.52 ± .13

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1			
2	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR	50-0-1	DRG 75-14-192
3			
4			
5			
6			
7			
8	INK, MARKING	36-2	DRG 75-14-192
9	LACQUER ENAMEL, LUSTRELESS	3-162	DRG 75-14-192
10	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	3-162
11	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATION FOR	3-1	3-162
12	ENAMEL, LUSTRELESS, QUICK-DRYING	3-67	DRG 75-14-192
13	LOADING OF HIGH-EXPLOSIVE SHELL WITH TRINITROTOLUENE (TNT)	50-15-5	DRG 75-14-192
14	CASTING METHOD, ASSEMBLING AND PACKING	50-15-5	DRG 75-14-192
15	TRINITROTOLUENE (TNT)	50-15-5	DRG 75-14-192

*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON,
SHALL NOT APPLY.

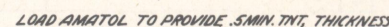


MARKING DIAGRAM



SUPERSEDES 75-14-192 WITH
CHANGE, AUGUST 15, 1945

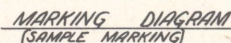
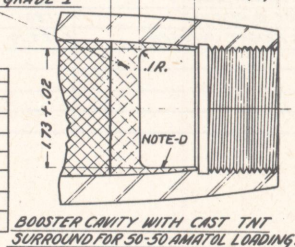
SHELL, H.E. 81MM, M43A1, LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS			
JANUARY 12, 1934	CLASS	DIVISION	DRAWING
REVISIONS	75	14	192
8-15-45			
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
DECIMAL ±			
FRACTIONAL ±			
ANGULAR ±			
DFTSMAN	TRACER	ORD. ENGINEER	
DAH	DAH	DAH	
DRG. PERTAINS TO			
CHECKED	DAH	ORD. ENGINEER	
SUBMITTED:			
J. H. Gallagher			
EXAMINED:			
J. H. Starbuck			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:			
C. S. Reid			
COL. ORD. DEPT. U. S. A.			
ORDNANCE DEPT., U. S. A.			



SURROUND, BOOSTER 75-14-198 C2
APPROX. .11 LB. CAST TNT, GRADE I

MEAN VOLUME OF CHARGE 26.21 CU.IN
(Q) THIS DIMENSION CONTROLS TOOL MANUFACTURE.

APPROX. WEIGHTS	TNT	AMATOL
SHELL WEIGHT EMPTY	10.97 ± .30	10.97 ± .30
CHARGE, BURSTING	1.49	1.36
SURROUND BOOSTER (TNT)		.11
TOTAL WEIGHT, UNFUZED	12.46	12.44
SHIPPING WEIGHT	12.46	12.44



NOTES:-

A-RETOUCH THE SURFACE, WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB, GRADE I.

B-MARK WITH YELLOW MARKING INK.

C-MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES

D-TNT CHIPPED OR BROKEN FROM SIDE WALL OF BOOSTER CAVITY, NEED NOT BE REPLACED.

LIST OF PARTS										
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	MATERIAL					APPROXIMATE NET WT (G/LT) (POUNDS)	APPROXIMATE GROSS WEIGHT OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
			PIECE - MARK	SIZE OR FORM	KIND	GRADE	SPEC. NUMBER			
1	SHELL LOADING ASSEMBLY		75-14-198A					50-15-5	12.46	
2	METAL PARTS SHIPPING ASSEMBLY	1	75-2-269G					50-30-1	10.97	
3										
4	CHARGE, BURSTING	1	75-14-198B	CAST	TRINITROTOLUENE	I	JAN-T-248	1.49		
5						TRINITROTOLUENE	JAN-T-248			
6	CHARGE, BURSTING (ALTERNATIVE)			CAST	50-50 AMATOL	AMMONIUM NITRATE	JAN-A-175	1.36		
7										
8										
9										
10										
11										
12										
13						INK, MARKING, YELLOW		36-2		
14										
15	SURROUND, BOOSTER		75-14-198C	CAST	ENAMEL, OLIVE DRAB	I	JAN-E-74			
					TRINITROTOLUENE	I	JAN-T-248	.11		(b)

(b) USE WHEN LOADING SHELL WITH 50-50 AMATOL

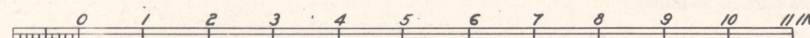
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-198
2	METAL PARTS SHIPPING ASSEMBLY	75-2-26
3		
4		

SUPERSEDES OLD TRACING 75-14-198
UNDER REVISION DATE OF MARCH 15, 1943

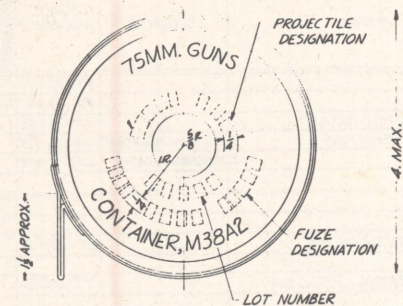
SHELL, H. E., 75 MM., M 48.
SHELL LOADING ASSEMBLY, MARKING
DIAGRAM & DETAILS

NOV. 4, 1933						CLAS		DIVISION		DRAWING		FILE	
REVISIONS						75		14		198			
7	11-12-41					TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED							
8	9-23-42					DECIMAL ±							
9	3-15-43					FRACTIONAL ±							
10	8-15-45					ANGULAR ±							
						D'FFMAN TRACER R.T. ENGINE							
DRG. PERTAINS TO						CHECKER J.B.		S.C. GALLO		SENIO ENGINE		C.F.P.H.	
						SUBMITTED:							
						<i>Amgalla gl</i> MAJOR, CH. DEPT. U.S.A.							
						EXAMINED:							
						<i>R.F. Sennswelt</i> CAPT., CRD. DEPT. U.S.A.							
						APPROVED BY ORDER OF THE CHIEF OF ORDNANCE.							
						<i>S.R. Kirkling</i> COL., ORD. DEPT. U.S.A.							
D						ORDNANCE DEPT. U.S.A.							

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT

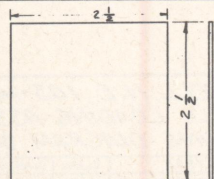


MARK BOTH ENDS AS SHOWN, USING WHITE MARKING INK. INSERT PROPER PROJECTILE DESIGNATION AND FUZE DESIGNATION AS INDICATED IN TABULATION, AND LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER).



CARTRIDGE CASE MUST BE SUPPORTED ON ITS RIM WHEN ROUND, COMPLETE, PROJ., A.R.C., M61, AND DRILL CARTRIDGE M16 OR M16B1 ARE INSERTED.

ROUND	PROJECTILE DESIGNATION	FUZE DESIGNATION	COLOR OF SEALING STRIP	GUN DESIGNATION
M48 SHELL WITH P.D. FUZE M57	SHELL, M48	WITH FUZE P.D. M57	YELLOW	AIRCRAFT
M48 H.E. SHELL WITH P.D. FUZE M48	SHELL, M48	WITH FUZE P.D. M48	YELLOW	M1897, M1917, M2 M3 & T7
M48 H.E. SHELL WITH FUZE, M54	SHELL, M48	WITH FUZE, T.S.Q., M54	YELLOW	M1897, M1916 & M1917
M61, A.R.C., PROJ. WITH TRACER	PROJ., A.R.C., M61	WITH FUZE B.D. M66A1	YELLOW	M1897, M1916, M1917, M2, M3, & T7
M16 OR M16B1 CARTRIDGE, DRILL, WITH DUMMY FUZE M59	CARTRIDGE, DRILL, M16 (OR M16B1)	WITH DUMMY FUZE, M59	BLACK	M1897, M1916, M1917, M2, M3, & T7
M48 H.E. SHELL (PRACTICE) WITH DUMMY FUZE, M59	SHELL, M48	WITH DUMMY FUZE, M59	LIGHT BLUE	



FILLER 75-14-199BG
NO. 35 CHIPBOARD PASTED OR PLAIN .06 THICK, COMMERCIAL

STRIP, SEALING 75-14-199A7
ADHESIVE TAPE, COLORED (b)
2 X 30, APPROXIMATELY.

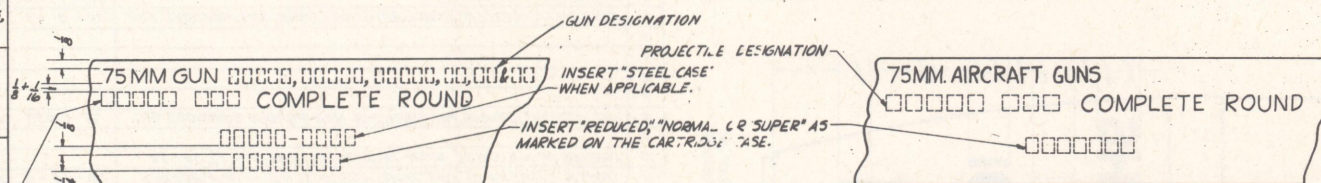
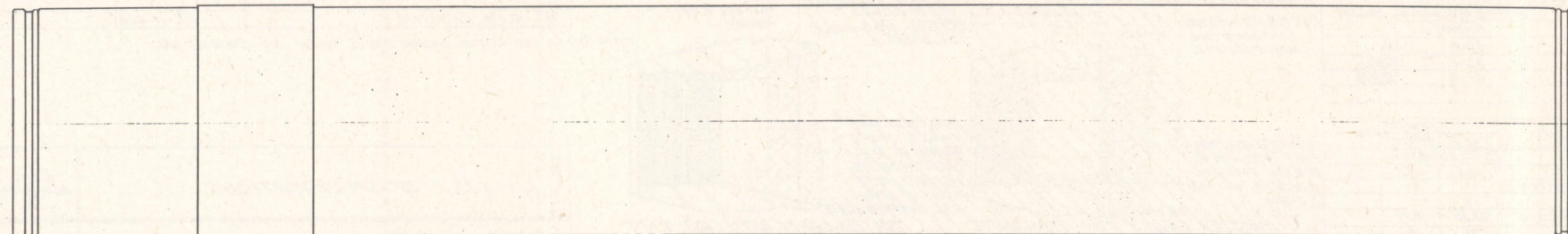
AFTER INSERTING ROUND, SECURE COVER BY APPLYING SEALING STRIP IN DIRECTION OPPOSITE TO THAT OF OUTER LAYER OF PAPER ON CONTAINER BODY. NO GAP PERMITTED AT THIS JOINT.

76-1-6036

76-1-163A

INSERT ONE OR MORE FILLERS (75-14-199B), AS REQUIRED TO PACK TIGHTLY (c).

27 1/4 MAX.



PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 75MM AIRCRAFT GUNS:
ROUND, COMPLETE, PROJ. A.R.C., M61 (WITH M66A1 B.D. FUZE)
CARTRIDGE CASE MARKED "75 MM. AIRCRAFT GUNS."
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M57 P.D. FUZE AND SUPERCHARGE)
PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 75MM GUNS M1897, M1916, M1917, M2, M3 & T7 (FOR BOTH BRASS AND STEEL CASES).
CARTRIDGES, DRILL, M16 AND M16B1 WITH DUMMY FUZE M59.
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND SUPERCHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND NORMAL CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND REDUCED CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND SUPER CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND NORMAL CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND REDUCED CHARGE).
ROUND, COMPLETE, PROJ., A.R.C., M61 (WITH M66A1 B.D. FUZE).
ROUND, COMPLETE, SHELL, M48 (PRACTICE, WITH DUMMY FUZE M59).

MARKING OF SEALING STRIPS
MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/2 HIGH USING BLACK MARKING INK EITHER BEFORE OR AFTER APPLICATION OF THE SEALING STRIP. MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER. INSERT PROPER PROJECTILE DESIGNATION AS INDICATED IN TABULATION. USE WHITE MARKING INK FOR BLACK SEALING STRIP.

FOR PACKING AND MARKING OF PACKING BOX SEE DRG. 20-4-388E

PACKING AND MARKING OF CONTAINER, FIBER, 75MM, M38A2

FEB. 14, 1935		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	199	
1	1-10-38	7	8-15-45		
2	4-9-40				
3	11-4-40				
4	2-19-42				
5	8-28-48				
6	7-31-43				
DRG. PERTAINS TO					
SUBMITTED					
EXAMINED					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE					
ORDNANCE DEPT. U.S.A.					

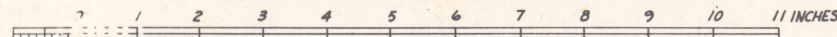
LIST OF PARTS		MATERIAL		SPEC. NUMBER		APPROXIMATE UNIT WEIGHT (POUNDS)		APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES		REMARKS	
LINE NO.	NAME OF PART	NUMBER REQ'D PER COMPONENT	PIECE-MARK	SIZE OR FORM	KIND	GRADE	SPEC. NUMBER	UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS	
1	PACKING STOP	1	76-1-163A					.15		(a)	
2	STRIP, SEALING	1	75-14-199A	STRIP	ADHESIVE TAPE		50-11-81	.03		(b)	
3					INK, MARKING, WHITE		36-2				
4					INK, MARKING, BLACK		36-2				
5	FILLER	(c)	75-14-199B	SHEET	CHIPBOARD, PASTED OR PLAIN		COMMERCIAL	.02			

(a) NOT USED WHEN PROJ., A.R.C., M61, AND DRILL CARTRIDGE M16 OR M16B1 ARE PACKED IN CONTAINER.
(b) FOR PROPER COLOR SEE TABULATION ABOVE.

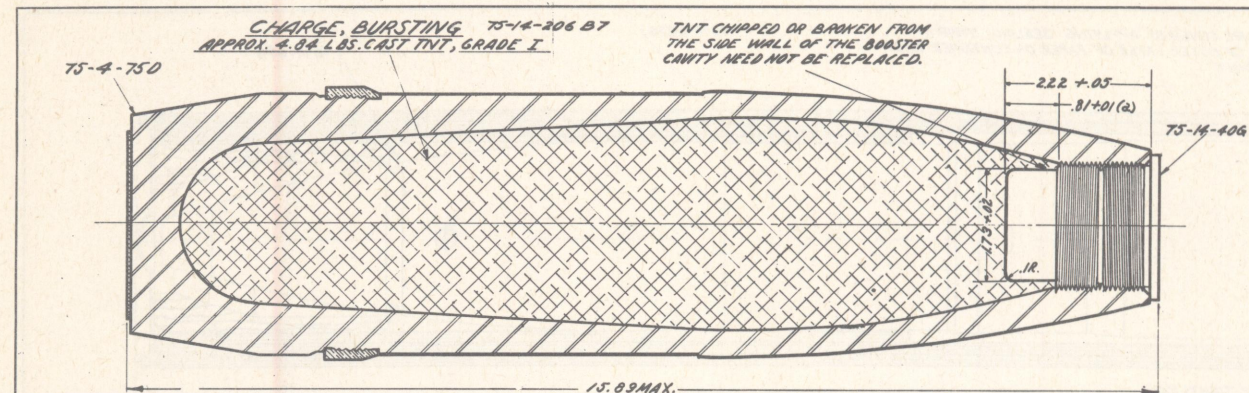
LIST OF SPECIFICATIONS

	SPEC. NUMBER	REQUIRED BY
1. AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-199
2. MARKING, (FOR MARKING AMMUNITION).	36-2	DRG. 75-14-199
3. T.S. AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	50-11-81
4. ADHESIVE, COLORED AND WHITE	50-11-81	DRG. 75-14-199

1. SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
2. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



SUPERSEDED BY 76-1-1120 AND 76-1-1125 WITH CHANGE SEPTEMBER 9, 1949

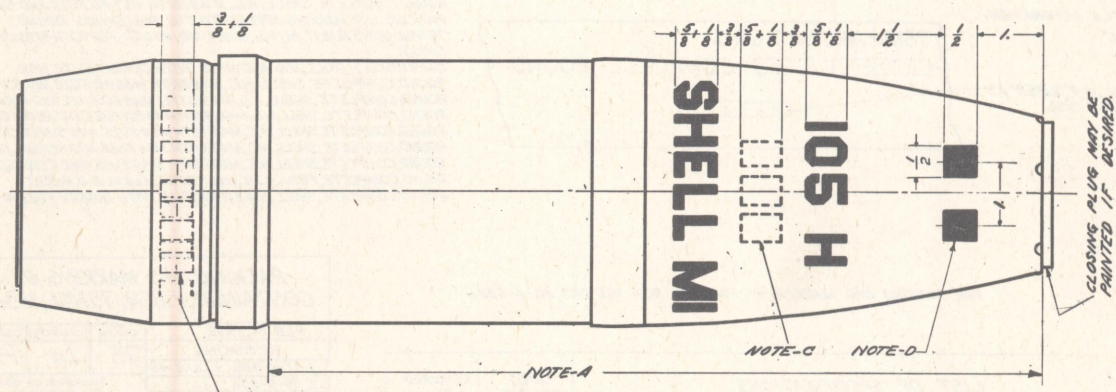
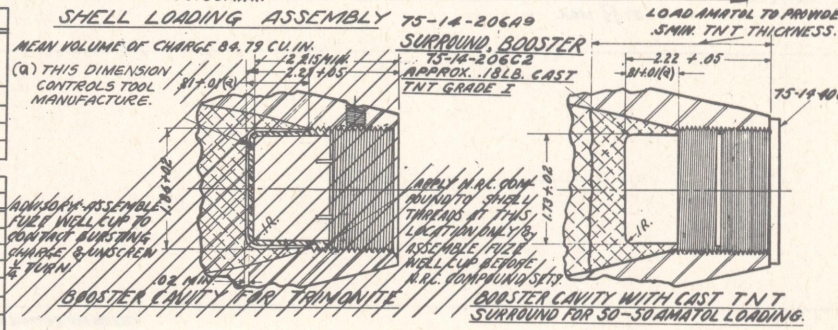


WEIGHT ZONES

ZONE	OVER POUNDS	UP TO & INCLUDING POUNDS	MARK
1	29.9	30.6	1
2	30.6	31.2	2
3	31.2	31.8	3
4			

APPROX. WEIGHTS

	TNT POUNDS	AMATOL POUNDS
SHELL, EMPTY	26.042.60	26.042.60
CHARGE, BURSTING	484	4.57
SURROUND, BOOSTER		.18
TOTAL WEIGHT, UNFUZZED	30.88	30.79
PLUG CLOSING	.37	.37
SHIPPING WEIGHT	31.25	31.16



NOTES:-

A - RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE DRAB ENAMEL.

B - MARK WITH YELLOW STENCIL, INK.

C - MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES AS FOLLOWS: "TNT" FOR CAST TNT, "AM. 50-50" FOR 50-50 AMATOL.

D - SAMPLE WEIGHT MARKING.

E - A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER 1/2 INCH HIGH.

LIST OF PARTS

LINE NUMBER	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC. NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)	APPROXIMATE GROSS WEIGHT PER UNIT (POUNDS)	REMARKS
1	SHELL LOADING ASSEMBLY		75-14-206A					30-15-5			
2	METAL PARTS SHIPPING ASSEMBLY	1	75-4-750					50-30-1	26.04		
3	CHARGE, BURSTING	1	75-14-206B	CAST	TRINITROTOLUENE		I	JAN-A-175	484		
4	CHARGE, BURSTING (ALTERNATIVE)			CAST	50-50 AMATOL		AMMONIUM NITRATE	JAN-A-175			
5							TRINITROTOLUENE	JAN-T-248			
6											
7											
8											
9	SURROUND, BOOSTER	1	75-14-206C	CAST	TRINITROTOLUENE		I	50-13-5	.18		(b)
10											
11											
12											
13											
14											
15	PLUG, CLOSING	1	75-14-406					JT-93-2	.37		(d)

LIST OF SPECIFICATIONS

LINE NO.	SPEC. NUMBER	REQUIRED BY
1		
2	AMMONIUM NITRATE	JAN-A-175 DRG 75-14-206
3	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPECIFICATIONS FOR	50-0-1 DRG 75-14-206
4		
5		
6		
7		
8	INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES ETC.	TT-I-558 DRG 75-14-206
9		
10	LOADING OF H.E. SHELL WITH TRINITROTOLUENE (TNT), 50-50	
11	AMATOL, CASTING METHOD, ASSEMBLING AND PACKING	50-15-5 DRG 75-14-206
12	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	9-1 JAN-E-74
13	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74 DRG 75-14-206
14	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2 DRG 75-14-206
15		
16	TRINITROTOLUENE (TNT)	JAN-T-248 DRG 75-14-206

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

LIST OF DRAWINGS

LINE NO.	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY 75-14-206
2	METAL PARTS SHIPPING ASSEMBLY 75-4-750
3	PLUGS, CLOSING, FOR PROTECTILES 75-14-40
4	

SHELL, H.E., 105-MM. M.I., SHELL LOADING ASSEMBLY, MARKING DIAGRAM & DETAILS

JULY 8, 1935

CLASS DIVISION DRAWING FILE

75 14 206

REVISIONS

NO.	DATE	BY	REVISION
1	10-6-38	7	11-12-41
2	2-24-37	8	9-23-42
3	4-29-38	9	5-21-43
4	4-19-40	10	8-15-45
5	6-7-41	11	4-11-49
6	10-3-41		

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

DECIMAL 2

FRACTIONAL 2

ANGULAR 2

DRG. PERTAINS TO

CHECKER W.M.R. ONS

ENGINEER M.T.

SUBMITTED

EXAMINED

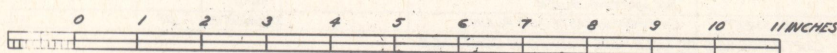
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

John G. Boston

MAJOR, ORD. DEPT. U.S.A.

LT COL, ORD. DEPT. U.S.A.

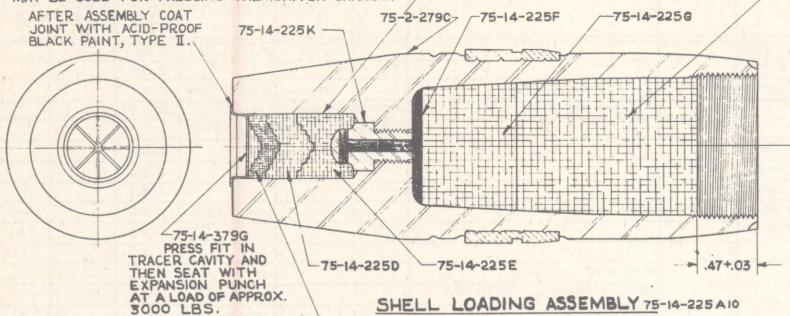
ORDNANCE DEPT. U.S.A.



TRACER LOADING INSTRUCTIONS

PRESS SEPARATELY TRACER CHARGE AND IGNITER CHARGE AT 110,000 LBS. PER SQ. IN., ALLOWING LOAD TO DWELL FROM 4 TO 6 SECONDS. EITHER THE "OCTAGONAL" OR THE "STEP" PUNCH MAY BE USED FOR PRESSING THE TRACER CHARGE. ONLY THE "STEP" MAY BE USED FOR PRESSING THE IGNITER CHARGE.

AFTER ASSEMBLY COAT JOINT WITH ACID-PROOF BLACK PAINT, TYPE II.



SHELL LOADING ASSEMBLY 75-14-225A10
MEAN VOLUME OF BURSTING CHARGE INCLUDING PELLETS = 1.78 CU. IN.

CHARGE, IGNITER 75-14-225C10

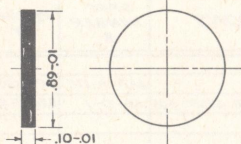
APPROX. 20 GRAINS (1.3 GRAMS) IGNITER COMPOSITION, K
ADVISORY: ONE SOLID PELLET; DIA. = .490, LENGTH = .18

CHARGE, TRACER (NO. 2) 75-14-225D10

APPROX. 51 GRAINS (3.3 GRAMS) TRACER COMPOSITION, M3
ADVISORY: TWO SOLID PELLETS; DIA. = .490, LENGTH = .25

CHARGE, TRACER (NO. 1) 75-14-225E10

APPROX. 39 GRAINS (2.53 GRAMS) TRACER COMPOSITION, M3
ADVISORY: ONE HOLLOW PELLET; INSIDE DIA. = .208, OUTSIDE DIA. = .490, LENGTH = .246 AND ONE SOLID PELLET; DIA. = .490, LENGTH = .18 PELLETS FORMED SEPARATELY BUT RECONSOLIDATED.



PELLET BASE 75-14-225G9

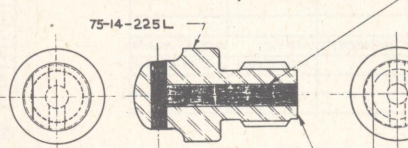
200-7 GRAINS (13-.45 GRAMS), TETRYL
MAY CONTAIN NOT MORE THAN 2% GRAPHITE
GRADE "A" OR "B"
ADVISORY DATA: PELLETTING PRESSURE APPROX. 5,000 LBS. PER SQ. IN.
SPECIFIC GRAVITY, ALL PLACES, 1.40 TO 1.55

PELLET, RELAY 75-14-225F10
23-2 GRAINS (1.48-.13 GRAMS) BLACK POWDER, GRADE "A-5"
ADVISORY: SPECIFIC GRAVITY, 1.65

28NF-2 LH
MAJOR = .2500-.0062
PITCH = .2268-.0031
MINOR = .2062 MAX.

CHARGE, RELAY IGNITING 75-14-225H10

APPROX. 1.68 GRAINS (109 MILLIGRAMS) BLACK POWDER, GRADE "A-5"
CONSOLIDATE AT 60,000 LBS. PER SQ. IN.



RELAY IGNITING CHARGE MAY BE .02 IN. ABOVE OR BELOW THIS SURFACE

RELAY IGNITING CHARGE HOUSING ASSEMBLY 75-14-225K9

HOUSING, RELAY IGNITING CHARGE 75-14-225L9

CORROSION-RESISTING STEEL, GRADE 6T
FINISH
MIN. PHYSICAL PROPERTIES
T.S. 120,000 EL. 10%
Y.P. 90,000 RED. 40%

APPROXIMATE WEIGHTS	75-14-225A	75-14-225M
SHELL, EMPTY	1.045	1.045
CHARGE, BURSTING (a)	.10	.105
TRACER AND CLOSURE	.025	.025
TOTAL	1.17 ± .05	1.175 ± .050

(a) WEIGHT INCLUDES BASE PELLET AND RELAY PELLET.

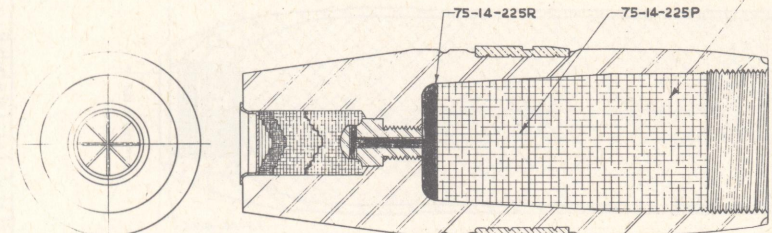
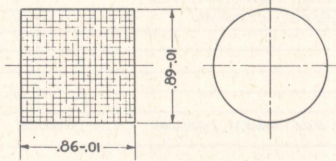
MARKING DIAGRAM

NOTES:
A- RETOUCH THE SURFACE, WHERE PREVIOUS COATING IS DAMAGED WITH OLIVE DRAB ENAMEL.
B- MARK WITH YELLOW STENCIL INK.
C- MARK "TETRYL" FOR PRESSED TETRYL WHEN APPLICABLE.
MARK "COMP. A" FOR PRESSED COMPOSITION "A" WHEN APPLICABLE.

CHARGE, BURSTING 75-14-225B9

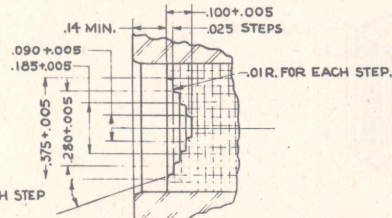
APPROX. .07 LB. (490 GRAINS) TETRYL
MAY CONTAIN NOT MORE THAN 2% GRAPHITE,
GRADE "A" OR "B"
PRESS BASE PELLET 75-14-225G AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225F IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN TWO APPROX. EQUAL INCREMENTS AT 9,000 LBS. PER SQ. IN. MIN. (C)

(C) ALTERNATIVE METHOD: PRESS BASE PELLET 75-14-225G AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225F IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN ONE INCREMENT AT 9,000 LBS. PER SQ. IN. MIN. USING TWO APPROX. EQUAL PELLETS.

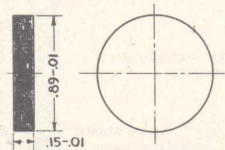


SHELL LOADING ASSEMBLY 75-14-225M9
MEAN VOLUME OF BURSTING CHARGE INCLUDING PELLETS = 1.78 CU. IN.

FOR ALL OTHER INFORMATION, SEE 75-14-225A

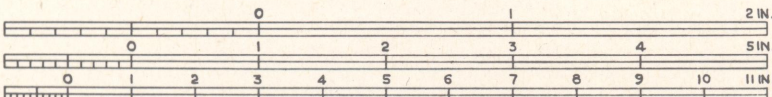


ENLARGED SECTION SHOWING CAVITY FORMED WITH "STEP PUNCH"
DIMENSIONS CONTROL TOOL MANUFACTURE



PELLET, RELAY 75-14-225R10
36-2 GRAINS (2.33-.13 GRAMS) BLACK POWDER, GRADE "A-5"
ADVISORY: SPECIFIC GRAVITY, 1.65

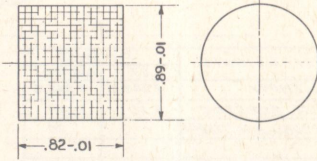
ENLARGED SECTION SHOWING CAVITY FORMED WITH "OCTAGONAL PUNCH" (ALTERNATIVE)



CHARGE, BURSTING 75-14-225N9

APPROX. .07 LB. (504 GRAINS), COMP. "A"
PRESS BASE PELLET 75-14-225P AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225R IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN TWO APPROX. EQUAL INCREMENTS AT 9,000 LBS. PER SQ. IN. (f)

(f) ALTERNATIVE METHOD: PRESS PELLET 75-14-225P AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN ONE INCREMENT AT 9,000 LBS. PER SQ. IN. MIN. USING TWO APPROX. EQUAL PELLETS.

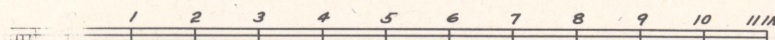


PELLET BASE 75-14-225P9
195-7 GRAINS (12.63-.45 GRAMS) COMP. "A"
ADVISORY DATA: PELLETTING PRESSURE APPROX. 5,000 LBS. PER SQ. IN.
SPECIFIC GRAVITY = APPROX. 1.55 MAX.

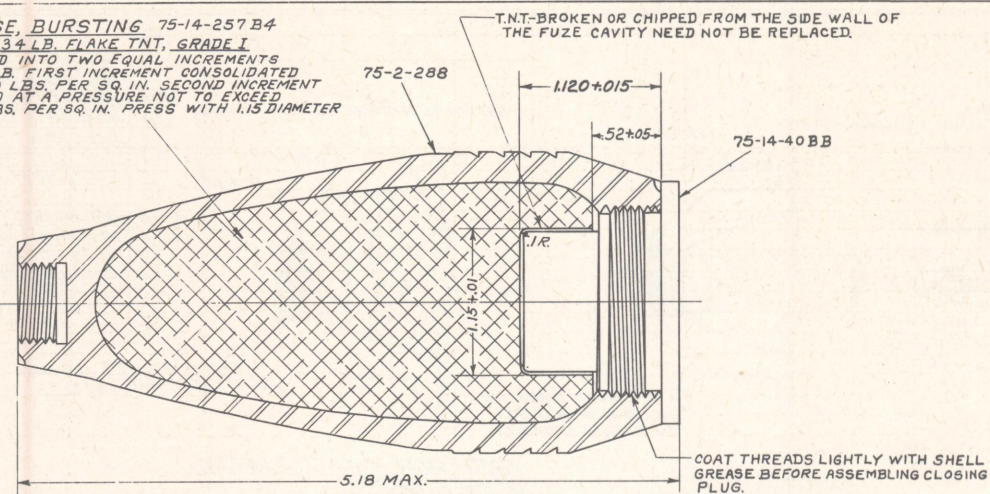
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-225
2	LIST OF PARTS AND LIST OF SPEC.	75-14-225A
3	METAL PARTS ASSEMBLY	75-2-279
4	LOADING ACCESSORIES FOR PROJECTILE	75-14-379

WITH 75-14-225A SUPERSEDES OLD TRACING 75-14-225 UNDER REVISION DATE OF JULY 27, 1943

JUNE 16, 1939		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	225	
7	11-25-41	TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
8	6-10-42	DECIMAL ±			
9	7-27-43	FRACTIONAL ±			
10	8-15-45	ANGULAR ±			
DRG. PERTAINS TO		DESIGNED BY	CHECKED BY	ENGINEER	
		J.B.	S.K.	244	
		SUBMITTED BY			
		B.M. Gallagher			
		MAJ., ORD. DEPT. U.S.A.			
		EXAMINED BY			
		R.A. Lammert			
		CAPT., ORD. DEPT. U.S.A.			
		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
		S.P. Stridling			
		COL., ORD. DEPT. U.S.A.			
75-1-101		ORDNANCE DEPT., U.S.A.			

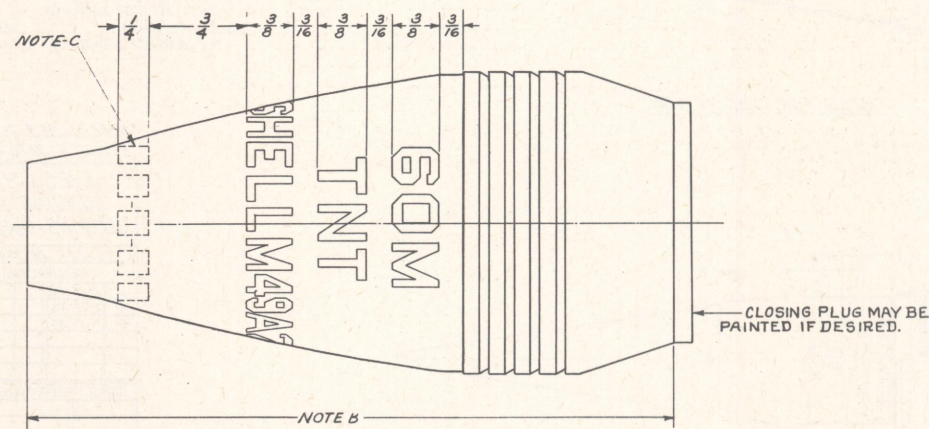


CHARGE, BURSTING 75-14-257B4
APPROX. 34 LB. FLAKE TNT, GRADE I
PRESSED INTO TWO EQUAL INCREMENTS
OF 17 LB. FIRST INCREMENT CONSOLIDATED
AT 2000 LBS. PER SQ. IN. SECOND INCREMENT
PRESSED AT A PRESSURE NOT TO EXCEED
5000 LBS. PER SQ. IN. PRESS WITH 1.15 DIAMETER
PUNCH.



SHELL LOADING ASSEMBLY 75-14-257A 4
MEAN VOLUME OF CHARGE=7.14 CU. IN.

APPROX. WEIGHTS	POUNDS
SHELL, EMPTY	1.67 ± .06
CHARGE, BURSTING (TNT)	.34
TOTAL WEIGHT, UNFUZED	2.01
PLUG, CLOSING	.20
SHIPPING WEIGHT	2.21



NOTES:-
A- MARK WITH YELLOW MARKING INK OR STENCIL PAINT
B- RETOUCH SURFACE WHERE PREVIOUS COATING IS DAMAGED
WITH OLIVE DRAB LACQUER ENAMEL OR ENAMEL; BOURRELET
MUST PASS A 2.364-M DIAMETER RING GAGE.
C- INSERT LOT NUMBER (INCLUDING LOADER'S INITIALS OR SYMBOL).

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER OF COMPONENT	PIECE- MARK	SIZE OR FORM	MATERIAL	GRADE	SPEC. NO.	APPROXIMATE WEIGHT (POUNDS)	APPROXIMATE GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	RE MARKS
1	SHELL LOADING ASSEMBLY		75-14-257A				AXS-1466	2.21		
2	METAL PARTS ASSEMBLY	1	75-2-288					1.67		
3										
4										
5	CHARGE, BURSTING	1	75-14-257B	FLAKE	TRINITROTOLUENE	I	50-13-5	.34		
6										
7	PLUG, CLOSING	1	75-14-40BB				57-93-2	.20		(b)
8										
9										
10					INK, MARKING, YELLOW		36-2			(c)
11					LACQUER ENAMEL, OLIVE DRAB	I	3-162			(q)
12					GREASE, SHELL		50-11-37			
13										
14										

(a) - ALT. - ENAMEL, LUSTRELESS, OLIVE DRAB, GRADE I, SPEC. 3-67

(b) - REQUIRED ONLY IN LOADED SHELL WHEN FUZE IS NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING.

(c) - ALTERNATIVE: PAINT, STENCIL, YELLOW, SPEC. 3-179

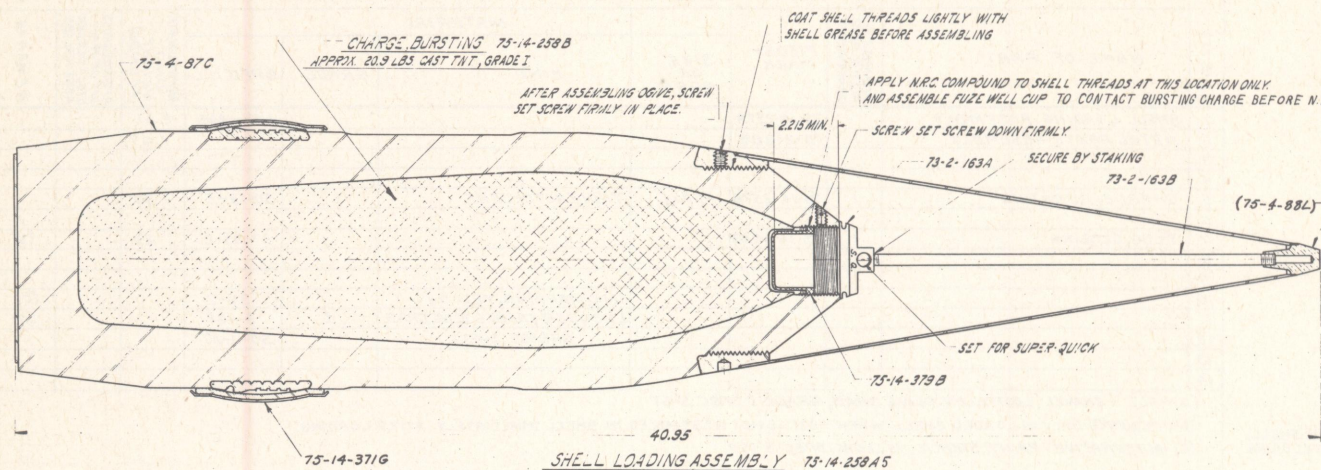
LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR	50-0-1	DRG. 75-14-257
2			
3	SHELL, H.E. M49, FOR 60MM MORTAR ASSEMBLING, MARKING & PACKING	AXS-1466	75-14-257A
4	INK, MARKING,	36-2	DRG. 75-14-257
5	PAINT, STENCIL	3-179	DRG. 75-14-257
6	GREASE, SHELL	50-11-37	DRG. 75-14-257
7			
8	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	3-67
9	ENAMEL, LUSTRELESS	3-67	DRG. 75-14-257
10	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG. 75-14-257
11	TRINITROTOLUENE (TNT)	50-13-5	DRG. 75-14-257
12	LACQUER ENAMEL, LUSTRELESS	3-162	DRG. 75-14-257

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON
SHALL NOT APPLY.

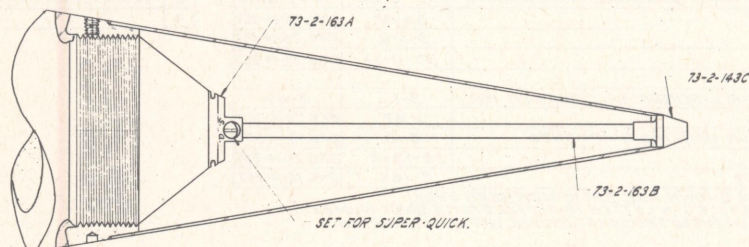
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-257
2	METAL PARTS ASSEMBLY	75-2-288
3	PLUG, CLOSING, FOR PROJECTILES	75-14-40
4		

SUPERSEDES OLD TRACING 75-14-257
UNDER REVISION DATE OF MAY 25, 1944.

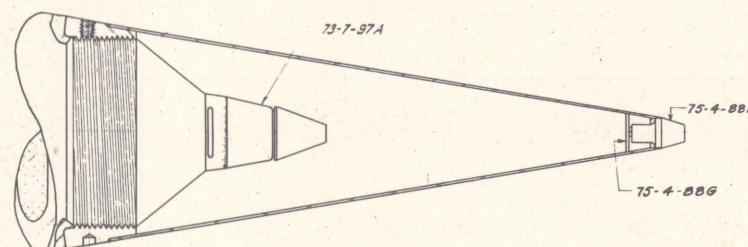
SHELL, H.E., 60-MM, M49A2 LOADING ASSEMBLY AND MARKING DIAGRAM			
JAN. 21, 1941		CLASS	DIVISION
REVISIONS		75	14
1	4-7-41		257
2	6-16-41		
3	5-25-44		
4	8-15-45		
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±			
DRG. PERTAINS TO			
CHECKER	R.H.W.	TRACER	E.F.L.
CHECKER	W.H.	TRACER	W.H.
SUBMITTED			
EXAMINED			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
C. S. Reed			
COL., ORDN. DEPT., U. S. A.			
ORDNANCE DEPT., U. S. A.			



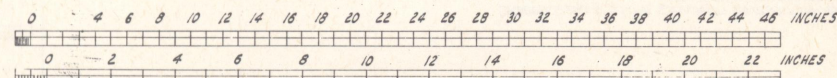
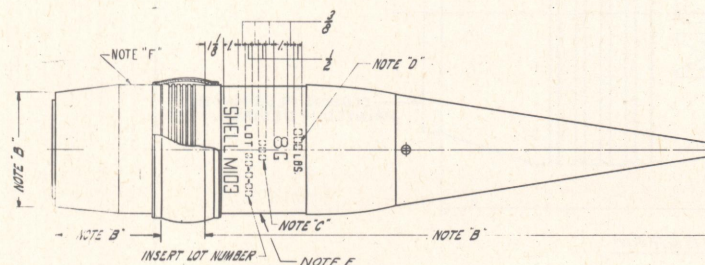
FUZE FOR DELAY ACTION (AS SHIPPED)
MEAN VOLUME OF CHARGE CAVITY, FUZE WELL CUP ASSEMBLED, 367 CU. IN.



FUZE FOR SUPER-QUICK ACTION



FUZE FOR TIME ACTION



LIST NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-258
2	LIST OF PARTS & LIST OF SPEC.	75-14-258A
3	METAL PARTS ASSEMBLY	75-4-87
4	SHELL DETAILS	75-4-88
5		
6	FUZE, P.D., MSIA4, MOD.3	75-2-163
7		
8	BOX, PACKING	75-2-79
9	CAN, PACKING (MSIA4 MOD.3 HEAD)	75-7-631
10	PACKINGS AND MARKING OF BOX	75-4-222
11	LOADING ACCESSORIES FOR PRO.	75-4-379
12	FUZE, T.M., M67A3	75-7-97
13		
14		

SURROUND, BOOSTER 75-14-258C2
APPROX. 25 LB CAST TNT, GRADE I.

BOOSTER CAVITY FOR TNT

(a) THIS DIMENSION CONTROLS TOOL MANUFACTURE.

BOOSTER CAVITY WITH CAST TNT SURROUND FOR AMATOL LOADING

APPROXIMATE WEIGHTS

PART	FUZE, P.D., MSIA4, MOD.3	FUZE, P.D., MSIA4 MOD.3	FUZE, TIME, MECH. M67A3
	DELAY	SUPER-QUICK	MECH. TIME
SHELL, EMPTY	216.98	216.98	216.98
CHARGE, BURSTING, TNT	20.90 (b)	20.90 (b)	20.90 (b)
CUP, FUZE WELL	.06	.06	.06
TOTAL WGT. UNFUZED	237.94	237.94	237.94
FUZE, P.D., MSIA4, MOD.3	2.47	2.47	
FUZE, TIME, MECH. M67A3			2.14
HEAD, CLOSING OR HEAD ASSY.			.17
SCREW, RETAINING			.06
GROMMET, ASSEMBLY	1.31	1.31	1.31
ASSEMBLED HEIGHT (INCLUDING GROMMET)	241.72	241.72	241.62

(b) AMATOL, 50-50 19.60 } 19.85 LBS.
TNT (BOOSTER SURROUND) .25
(b) AMATOL, 80-20 18.62 } 18.97 LBS.
TNT (BOOSTER SURROUND) .25

SUPERSEDES OLD TRACING 75-14-258 UNDER
REVISION DATE OF JULY 21, 1944.

SHELL, H.E., 8 INCH, M103
LOADING ASSEMBLY
MARKING DIAGRAM AND DETAILS

AUGUST 28, 1940	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	258	
3 3-23-42				
4 7-21-44				
5 8-15-45				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRG. PERTAINS TO				
SUBMITTED:				
A.M. Gallagher				
EXAMINED:				
A.L. Linnacott				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
C.F. Hoffstetter				
D				
ORDNANCE DEPT., U.S.A.				

NOTES:

- MARK WITH YELLOW STENCIL PAINT, OR YELLOW LACQUER ENAMEL OR ENAMEL, GRADE I.
- RECOAT ENTIRE SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH OLIVE DRAB LACQUER ENAMEL OR ENAMEL, GRADE II, EXCEPT THAT THE BASE COVER, IF OF COPPER, NEED NOT BE PAINTED.
- INSERT {
"AM. 50-50" FOR 50-50 AMATOL.
"AM. 80-20" FOR 80-20 AMATOL.
- MARK WEIGHT OF COMPLETE ASSEMBLY, LESS GROMMET, TO NEAREST POUND.
- MARK A.I.C. CODE IN LETTERS AND FIGURES 1 3/8 INCH HIGH, ON OPPOSITE SIDE OF MARKING SHOWN MIDWAY BETWEEN GROMMET AND BOURRELET.
- A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL, TO THE REAR OF THE ROTATING BAND, IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	RECEIPT MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	SHELL LOADING ASSEMBLY		75-14-258A				50-15-5	241.72	(C) (1)
2	METAL PARTS ASSEMBLY	1	75-6-87C				50-30-1	216.99	
3	FUZE, P.D. MSIA3, MOD. 3, ASSEMBLY	1	75-2-163A				50-17-16	2.47	(d), (e)
4	CHARGE, BURSTING	1	75-4-258B	CAST	TRINITROTOLUENE	I	50-13-5	20.90	
5	CHARGE, BURSTING (ALTERNATIVE)			CAST	50-50 AMATOL	AMMONIUM NITRATE	50-11-53	19.60	
6	CHARGE, BURSTING (ALTERNATIVE)			EXTRUDED	80-20 AMATOL	TRINITROTOLUENE	50-13-5	18.62	
7	HEAD ASSEMBLY	1	75-2-143C					.17	(K)
8	SCREW, RETAINING	1	75-4-88G					.06	(K)
9	CUP, FUZE, WELL	1	75-14-379B					.06	(F)
10									
11	SURROUND, BOOSTER		75-14-258C	CAST	TRINITROTOLUENE	I	50-13-5	.25	(b)
12	FUZE, M., M6TA3	1	75-7-97A					2.14	(K)
13									
14					COMPOUND, N.R.C.	A	50-11-13		
15					INK, PRINTERS, BLACK		COMMERCIAL		
16					GREASE, SHELL		50-11-37		
17					LACQUER ENAMEL, OLIVE DRAB	II	3-162		(d)
18					PAINT, STENCIL, YELLOW		3-179		(h)
19									
20									

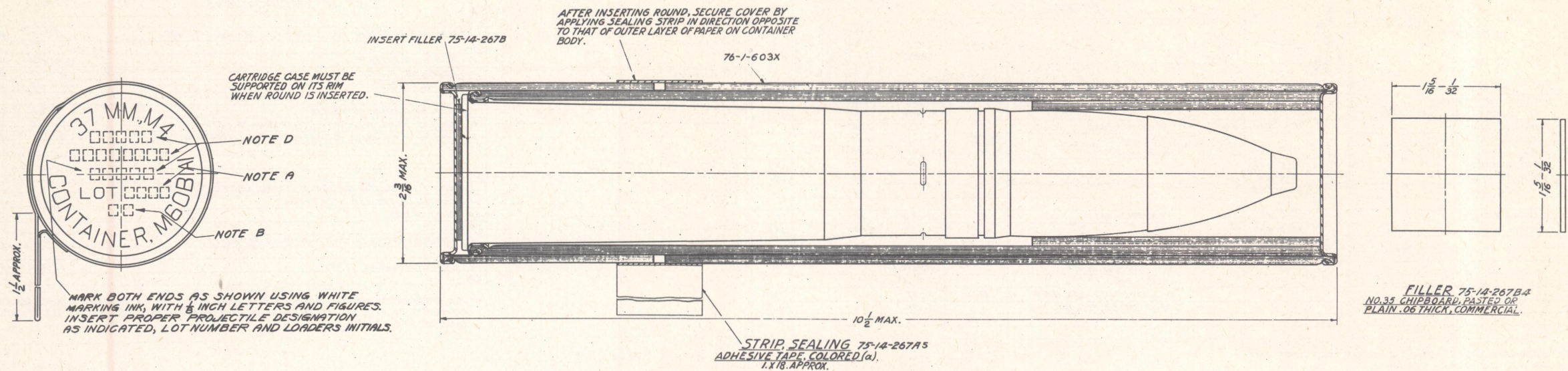
- (2) ALTERNATIVE MATERIAL: - ENAMEL, OLIVE DRAB, GRADE I, SPEC. 3-67.
 (b) USE WHEN LOADING SHELL WITH AMATOL.
 (c) FOR 80-20 AMATOL LOADING, SEE SPEC. 50-15-3.
 (d) FUZE, P.D., MSIA4, MOD. 3, ASSEMBLY, 75-2-163A, WITH TUBE, 75-2-163B, AND CLOSING HEAD, 75-4-88L, FOR DELAY ACTION (AS SHIPPED).
 (e) FUZE, P.D., MSIA4, MOD. 3, ASSEMBLY, 75-2-163A, WITH TUBE, 75-2-163B, AND HEAD ASSEMBLY, 75-2-143C, FOR SUPER-QUICK ACTION.
 (f) FUZE, M.T., M6TA3 ASSEMBLY, 75-7-97A, WITH RETAINING SCREW, 75-4-88G, & CLOSING HEAD, 75-4-88L, FOR TIME ACTION.
 (g) WEIGHT INCLUDES TUBE AND CLOSING HEAD.
 (h) FUZE WELL CUP REQUIRED WITH ALL TYPES OF BURSTING CHARGES.
 (i) ALTERNATIVE: - YELLOW, GRADE I, LACQUER ENAMEL SPEC. 3-162 OR ENAMEL, SPEC. 3-67.
 (j) THESE PARTS TO BE PLACED IN SHIPPING BOX AS ACCESSORIES.
 (k) WEIGHT WITH FUZE, M.T., M6TA3, 241.62 & WITH FUZE, P.D., MSIA4, 241.72.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-3-1	DRG. 75-14-258
2			
3	AMMONIUM NITRATE	50-11-53	DRG. 75-14-258
4	COMPOUND, N.R.C.	50-11-13	DRG. 75-14-258
5	GREASE, SHELL	50-11-37	DRG. 75-14-258
6			
7	LACQUER ENAMEL, LUSTRELESS	3-162	DRG. 75-14-258
8	LOADING OF H.E. SHELL WITH TNT, 50-50 AMATOL, ETC.	50-15-5	DRG. 75-14-258
9	LOADING OF H.E. SHELL WITH 80-20 AMATOL, EXTRUSION METHOD, ETC.	50-15-3	DRG. 75-14-258
10			
11			
12			
13	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATION FOR	3-1	3-162
14	ENAMEL, LUSTRELESS, QUICK DRYING	3-67	DRG. 75-14-258
15	PAINT, STENCIL	3-179	DRG. 75-14-258
16			
17	STANDARD SPECIFICATION FOR MARKING SHIPMENTS	103-2	DRG. 75-14-258
18			
19	TRINITROTOLUENE (TNT)	50-13-5	DRG. 75-14-258
20			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREBY, SHALL NOT APPLY.

SUPERSEDES OLD TRACING 75-14-258A UNDER
 REVISION DATE OF JULY 21, 1944.

SHELL, H.E., B/INCH, M.O.3. LOADING ASSEMBLY			
LIST OF PARTS AND LIST OF SPECIFICATIONS.			
REV. ST. 23.1340	CLASS	DIVISION	DRAWING FILE
REVISIONS	75	14	258A
1 10-3-43			
2 6-24-41			
3 9-23-42			
4 7-21-44			
5 8-15-45			
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
DECIMAL 2			
FRACTIONAL 2			
ANGULAR 2			
DRG. PERTAINS TO			
75-14-258			
CHECKER	TRACER	ENGINEER	
H.E.R.	J.W.	M.	
SUBMITTED:			
A.M. Gallagher			
LT. COL. ORD. DEPT. U.S.A.			
EXAMINED:			
R.F. Greenwald			
CAPT., ORD. DEPT. U.S.A.			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:			
C.F. Heston			
COL. ORD. DEPT. U.S.A.			
D			
ORDNANCE DEPT., U.S.A.			



MARK BOTH ENDS AS SHOWN USING WHITE MARKING INK, WITH 1/8 INCH LETTERS AND FIGURES. INSERT PROPER PROJECTILE DESIGNATION AS INDICATED, LOT NUMBER AND LOADERS INITIALS.

37MM. AUTO. GUN. M 4 - COMPLETE ROUND
LOT 0000-00 PAKED 00-00

MARKING OF SEALING STRIP
MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/8 IN. HIGH USING BLACK MARKING INK, EITHER BEFORE OR AFTER APPLICATION OF SEALING STRIP. MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER. USE WHITE MARKING INK FOR BLACK SEALING STRIP.
A-INSERT LOT NUMBER.
B-INSERT LOADERS INITIALS.
C-INSERT MONTH AND YEAR PACKED.
D-INSERT "SHELL, PRACTICE, M55A1", "SHELL, H.E., M54" OR "SHOT, A.P., M80" AS APPLICABLE.

PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 37 MM. AUTO GUN, M 4:-
ROUND COMPLETE, SHOT, A.P. M80
ROUND COMPLETE, SHELL, PRACTICE, M55A1.
ROUND COMPLETE, SHELL, H.E., M54.
FOR PACKING OF BOX SEE DRG. 20-4-236.

SUPERSEDES OLD TRACING 75-14-267 UNDER REVISION DATE OF NOV. 5, 1942.

PACKING AND MARKING OF CONTAINER, FIBER, 37 MM, M60 BIAI				
NOV. 12, 1940.				
CLASS	DIVISION	DRAWING	FILE	
75	14	267		
REVISIONS				
3	1-23-42			
4	11-3-42			
5	8-15-45			
SYMBOL				
DRG. PERTAINS TO				
20-4-236				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
ORDNANCE DEPT. U. S. A.				

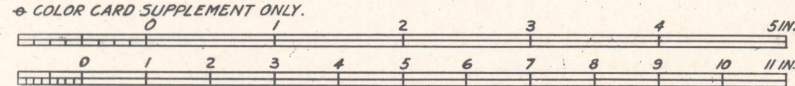
ROUND	COLOR OF SEALING STRIP
SHELL, PRACTICE, M55A1	LIGHT BLUE
SHELL, H.E., M54	YELLOW
SHOT, A.P., M80	BLACK

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQ'D PER COMPONENT	PIECE-MARK	SIZE OR FORM	KIND	GRADE	SPEC. NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
1	FILLER	1	75-14-267B	SHEET	CHIPBOARD, PASTED OR PLAIN		COMMERCIAL		
2									
3									
4									
5	STRIP, SEALING	1	75-14-267A	STRIP	ADHESIVE TAPE		50-11-81		(a)
6									
7									
8					INK, MARKING, WHITE		36-2		
9					INK, MARKING, BLACK		36-2		
10									
11									
12									

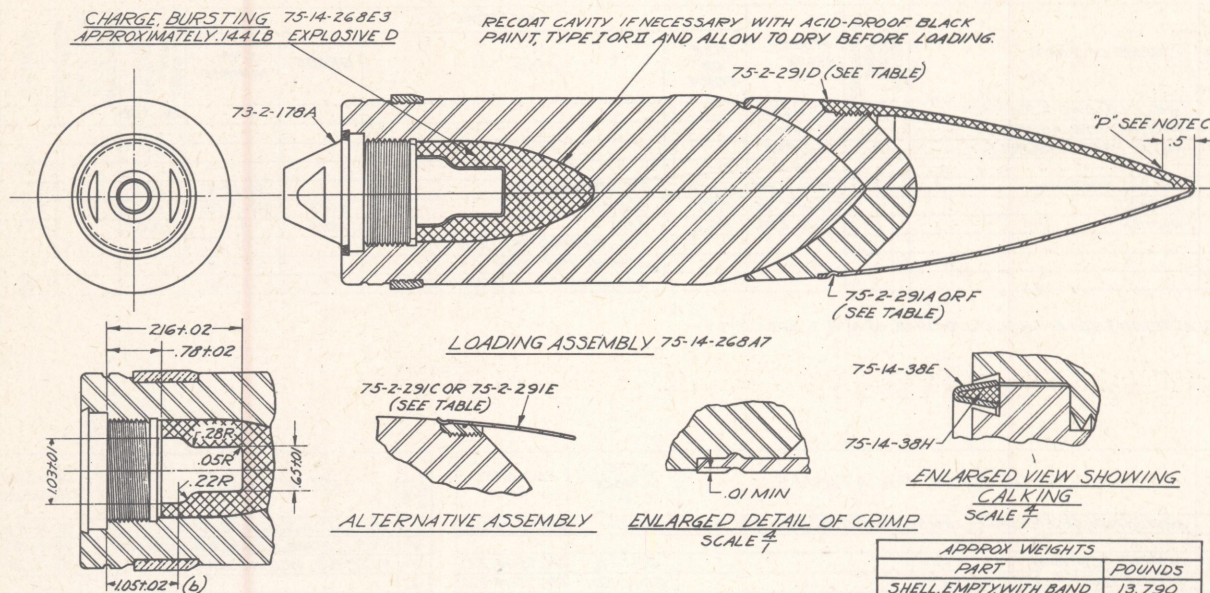
(a) FOR PROPER COLOR SEE TABULATION.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-267
2			
3	INK, MARKING, BLACK AND WHITE (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-267
4			
5	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	50-11-81
6			
7			
8			
9			
10			
11			
12	TAPE, ADHESIVE, COLORED AND WHITE	50-11-81	DRG. 75-14-267

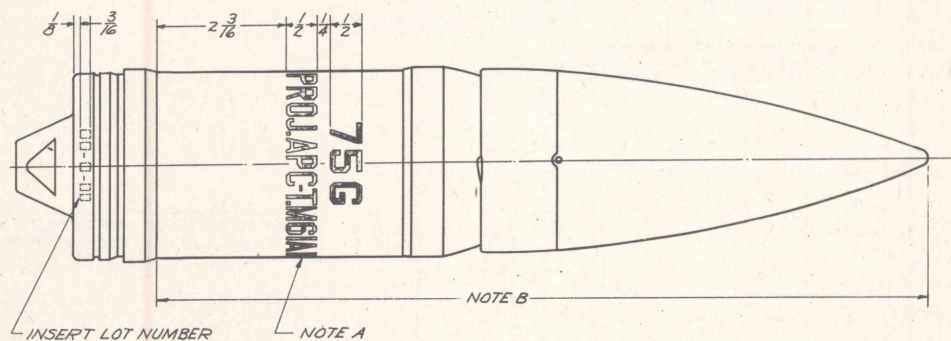
*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



SUPERSEDED BY 76-1-1109 WITH CHANGE SEPTEMBER 7, 1949.



VIEW SHOWING BOOSTER CAVITY
(b) THIS DIMENSION CONTROLS TOOL MANUFACTURE.



NOTES:-
A-MARK WITH YELLOW STENCIL INK AS SHOWN AND "EXP D" ON OPPOSITE SIDE.
B-RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB.
ADVISORY:-AFTER RETOUCHING, BOURRELET SHOULD NOT EXCEED 2.948.
C-POINT "P" ON WINDSHIELD TO BE CONCENTRIC WITH AXIS OF PROJECTILE WITHIN .020(.04 INDICATOR READING).
D-ASSEMBLE WINDSHIELD AFTER PROJECTILE HAS BEEN LOADED AND FUZED.
E-SCREW WINDSHIELD DOWN FIRMLY AND SECURE BY STAKING INTO CAP NOTCHES.
F-ASSEMBLE WINDSHIELD TIGHT AGAINST CAP AND ATTACH WITH A 360° CRIMP.
G-REMOVE ALL BURRS.

SUPERSEDES 75-14-268 WITHOUT CHANGE, MARCH 10, 1949.

APPROX WEIGHTS	
PART	POUNDS
SHELL, EMPTY, WITH BAND	13.790
FUZE	1.000
CHARGE, BURSTING	.144
GAS CHECK & FILLER	.030
TOTAL WEIGHT	14.964

PERMISSIBLE METAL PARTS ASSEMBLIES				
ASSEMBLY	BODY	CAP	WINDSHIELD	NOTES
1 75-2-291A	75-2-328F	75-2-350A OR B	75-2-326N (STEEL)	D, F
2 75-2-291C	75-2-328F	75-2-350D	75-2-326F (STEEL)	D, E
3 75-2-291D	75-2-328B	75-2-350D	75-2-326L (ALUMINUM)	D, E
4 75-2-291E	75-2-328F	75-2-350D	75-2-326H (STEEL)	D, E
5 75-2-291F	75-2-328H	75-2-350C	75-2-326N (STEEL)	D, F

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQ'D PER COMPONENT	PIECEMARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)
1	LOADING ASSEMBLY	1	75-14-268A					50-15-1	1496.20
2	METAL PARTS ASSEMBLY	1	SEE TABLE					AXS-494	1379
3	FUZE, B D, M66AI, ASSEMBLY	1	73-2-178A					PXS-1008	100
4									
5	CHARGE, BURSTING	1	75-14-268E		EXPLOSIVE D			JAN-A-166	.144
6	CHECK, GAS	1	75-14-38E	STRIP	COPPER, TYPE VI		CLASS A	QQ-C-501	.01
7	FILLER	1	75-14-38H	MOULDED	LEAD, SOFT		SOFT	COMMERCIAL	.02
8									
9									
10					INK, STENCIL, YELLOW			TT-F-558	
11									
12					ENAMEL, OLIVE DRAB		I	JAN-E-74	
13									
14					PAINT, ACID-PROOF BLACK		TYPE I OR II	JAN-P-450	
15									

LINE NO.	LIST OF SPECIFICATIONS	SPEC NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC FOR	50-0-1	DWG 75-14-268
2	AMMONIUM PICRATE (EXPLOSIVE D)	JAN-A-166	DWG 75-14-268
3			
4	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74	DWG 75-14-268
5			
6	FUZE, B D, M66AI, LOADING, ASSEMBLING AND PACKING	PXS-1008	DWG 75-14-268
7			
8	INK, STENCIL, OPAQUE FOR MARKING NON-POROUS SURFACES	TT-F-558	DWG 75-14-268
9			
10	LOADING BASE FUZED SHELL WITH EXPLOSIVE D, ASSEMBLING	50-15-1	DWG 75-14-268
11			
12	PAINT, ACID-PROOF BLACK (FOR AMMUNITION)	JAN-P-450	DWG 75-14-268
13	PAINT AND RELATED MATERIALS, GENERAL SPEC FOR	3-1	JAN-E-74
14	PROJECTILE, ARMOR PIERCING, CAPPED, 75MM, M66AI, ETC	AXS-494	DWG 75-14-268
15			
16	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DWG 75-14-268
17			
18			

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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	75-14-268
2	FUZE, B D, M66AI ASSEMBLY	73-2-178
3	METAL PARTS ASSEMBLY	75-2-291
4	COVERS, STRIPS, ETC.	75-14-38
5	DETAILS	75-2-326
6	DETAILS	75-2-328
7	DETAILS	75-2-350

NOTICE:-THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

PROJECTILE, APC-T, 75MM, M66AI
LOADING ASSEMBLY, MARKING
DIAGRAM AND DETAILS

OCT. 30, 1940

REVISIONS	CLASS	DIVISION	DRAWING	FILE
7 8-15-48		75	14	268
8 9-10-49				

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

DECIMAL: FRACTION ± 1/2

ANGULAR: ± 1/2

DRG. PERTAINS TO

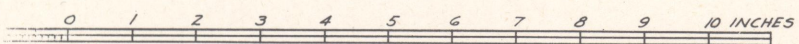
CHECKER: K.L. E.J.S.

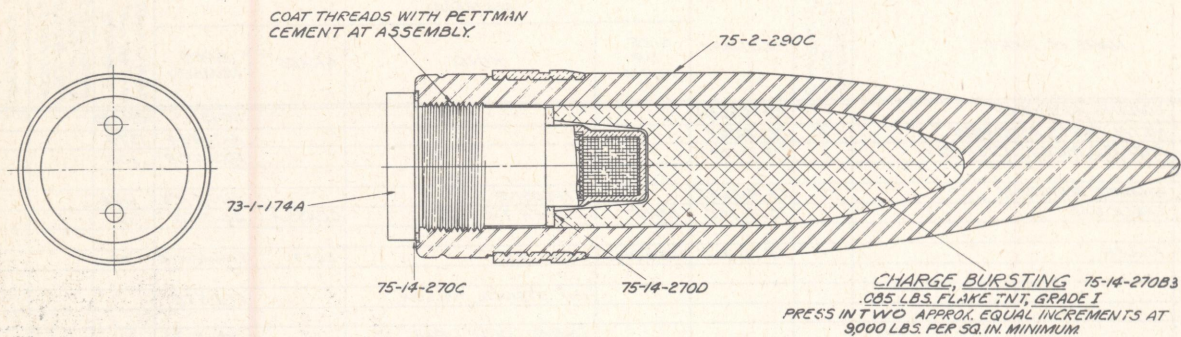
SUBMITTED: [Signature]

EXAMINED: [Signature]

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: [Signature]

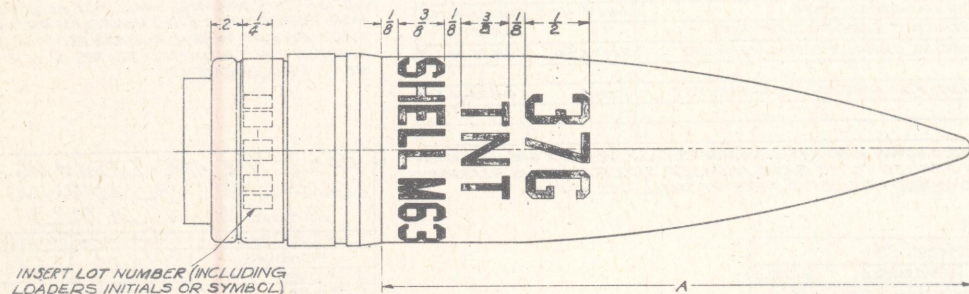
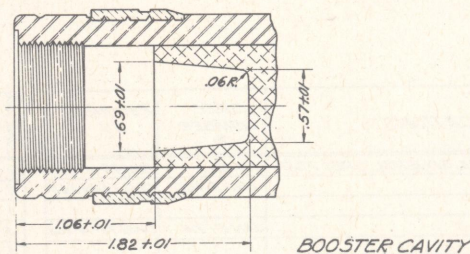
ORDNANCE DEPT., U.S.A.





SHELL LOADING ASSEMBLY 75-14-270A3
MEAN VOLUME OF CHARGE CAVITY WITH FUZE AND WASHER ASSEMBLED = 1.63 CU. IN.

APPROX. WEIGHTS	
PART	POUNDS
CHARGE, BURSTING	.085
FUZE	.27
SHELL, EMPTY, WITH BAND	1.25
WASHER	.0002
GASKET	.002
TOTAL WEIGHT	1.61 ± .02



MARKING DIAGRAM

NOTES:-
A- RETOUCH THIS SURFACE, WHERE PREVIOUS COATING IS DAMAGED, WITH LACQUER, ENAMEL, OLIVE DRAB OR ENAMEL, OLIVE DRAB.
B- MARK WITH YELLOW MARKING INK.

LIST OF PARTS

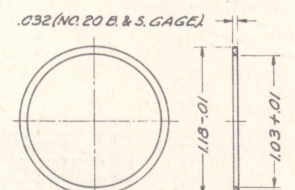
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	GRADE	SPEC. NUMBER	APPROXIMATE WEIGHT (POUNDS)	APPROXIMATE VOLUME (CU. IN.)	REMARKS
1	SHELL LOADING ASSEMBLY		75-14-270A					1.61 ± .02		
2	FUZE, B.D., M58, ASSEMBLY	1	73-1-174A					.27		
3	METAL PARTS ASSEMBLY	1	75-2-290C					1.25		
4										
5	CHARGE, BURSTING	1	75-14-270B	FLAKE	TRINITROTOLUENE	I	50-13-5	.085		
6	GASKET	1	75-14-270C	STRIP	COPPER	SOFT	QQ-C-501	.002		
7	WASHER	1	75-14-270D	ROLL	FELT	NO. 10	8-15	.0002		
8					INK, MARKING, YELLOW		36-2			
9					CEMENT, PETTMAN		50-11-8			
10					LACQUER ENAMEL, OLIVE DRAB	I	3-162			(a)

(a) ALTERNATIVE: ENAMEL OLIVE DRAB, GRADE I, SPEC 3-67

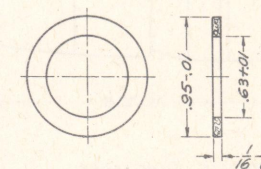
LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GEN. SPEC. FOR	50-0-1	DRG. 75-14-270
2			
3	CEMENT, PETTMAN	50-11-8	DRG. 75-14-270
4	COPPER, BARS, PLATES, RODS, ETC.	QQ-C-501	DRG. 75-14-270
5			
6	FELT, PRESSED	8-15	DRG. 75-14-270
7			
8	INK, MARKING, (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-270
9	LACQUER ENAMEL, LUSTRELESS	3-162	DRG. 75-14-270
10	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	QQ-C-501
11	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	3-67
12	ENAMEL, LUSTRELESS, QUICK DRYING	3-67	DRG. 75-14-270
13	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG. 75-14-270
14	TRINITROTOLUENE (TNT)	50-13-5	DRG. 75-14-270

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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-270
2	SHELL, 37MM, H.E., M63, ASSEMBLY	75-2-290
3	FUZE, B.D., M58, ASSEMBLY	73-1-174
4		



GASKET 75-14-270C
COPPER, SOFT



WASHER 75-14-270D
FELT, NO. 10
DIAMETER DIMENSIONS CONTROL TOOL MANUFACTURE.

NOTICE THIS DRAWING SH. NOT BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN WRITING BY THE UNITED STATES GOVERNMENT PROCUREMENT.

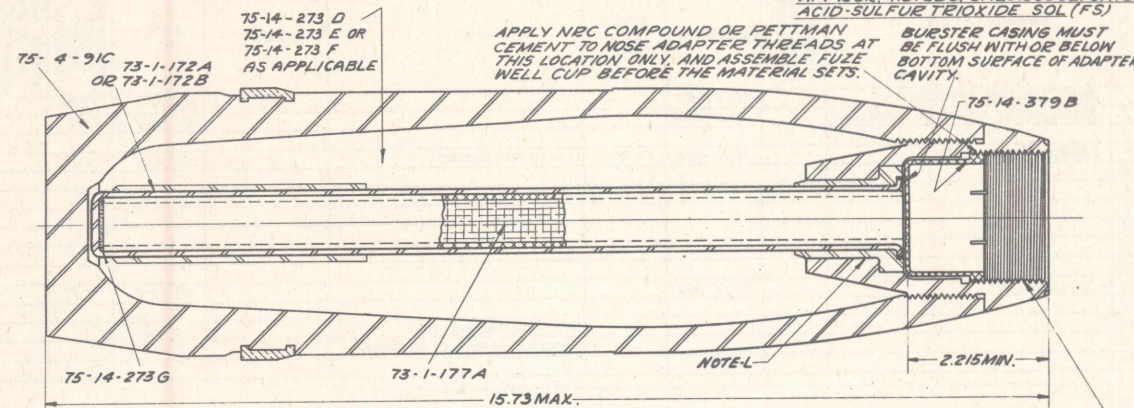
SHELL, H.E., 37MM, M63, W/FUZE, B.D., M58 LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS

DECEMBER 2, 1940	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	270	
1 6-5-41				
2 9-29-41				
3 8-15-45				
SYMBOL				
DRG. PERTAINS TO				
SUBMITTED BY				
EXAMINED BY				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
ORDNANCE DEPT. U.S.A.				

CHARGE, SMOKE 75-14-273D3
(FOR 75-14-273A)
APPROX. 4.06 LBS. WHITE PHOSPHORUS (WP)

CHARGE, GAS 75-14-273E3
(FOR 75-14-273B)
APPROX. 3.17 LBS. GAS, PERSISTENT (H)

CHARGE, SMOKE 75-14-273F3
(FOR 75-14-273A)
APPROX. 4.61 LBS. CHLOROSULFONIC
ACID-SULFUR TRIOXIDE SOL (FS)



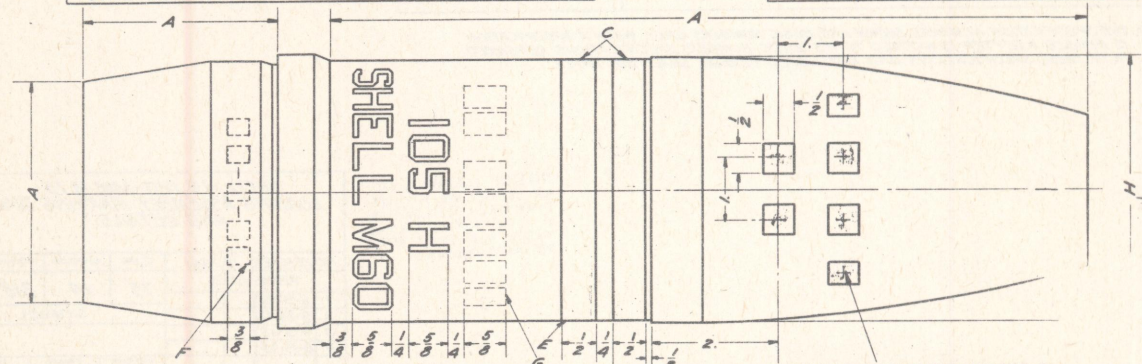
APPLY NRC COMPOUND OR PETTMAN CEMENT TO NOSE ADAPTER THREADS AT THIS LOCATION ONLY, AND ASSEMBLE FUZE WELL CUP BEFORE THE MATERIAL SETS. BURSTER CASING MUST BE FLUSH WITH OR BELOW BOTTOM SURFACE OF ADAPTER CAVITY.

SHELL LOADING ASSEMBLY (WP) 75-14-273A4
SHELL LOADING ASSEMBLY (H) 75-14-273B4
SHELL LOADING ASSEMBLY (FS) 75-14-273C4
MEAN VOLUME OF CHARGE CAVITY WITH BURSTER CASING ASSEMBLED = 70.9 CU. IN.

COAT THREADS LIGHTLY AFTER LOADING: WITH RUST PREVENTIVE COMPOUND FOR H SHELL. WITH SHELL GREASE FOR FS & WP SHELL.

APPROXIMATE WEIGHTS	POUNDS		
	WP	H	FS
SHELL, EMPTY (WITH ADAPTER)	26.58±60	26.58±60	26.58±60
CASING, BURSTER, M5	1.48	1.48	1.48
CHARGE, BURSTER, M5	.51	.51	.51
CHARGE	4.06	3.17	4.61
CUP, FUZE WELL	.06	.06	.06
TOTAL WEIGHT, UNFUZED	32.69	31.80	33.24

WEIGHT ZONES	LOADED SHELL WITHOUT FUZE			MARK		
	OVER	UPTO AND INCLUDING	POUNDS	WP	H	FS
1	30.5	31.2				
2	31.1	31.8				
3	31.7	32.4				
4	32.3	33.0				
5	32.9	33.6				
6	33.5	34.2				



NOTES:

- RECOAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH BLUE GRAY, GRADE I, LACQUER ENAMEL OR ENAMEL.
- MARK GAS SHELL, 75-14-273B, WITH GREEN, GRADE I, LACQUER ENAMEL OR ENAMEL, OR GREEN STENCIL INK.
- MARK GAS SHELL, 75-14-273B, WITH TWO GREEN BANDS AS SHOWN.
- MARK SMOKE SHELLS, 75-14-273A AND 75-14-273C, WITH YELLOW, GRADE I, LACQUER ENAMEL OR ENAMEL, OR YELLOW STENCIL INK.
- MARK SMOKE SHELLS, 75-14-273A AND 75-14-273C, WITH ONE YELLOW BAND AS SHOWN.
- INSERT LOT NUMBER.

- INSERT "WP SMOKE" FOR 75-14-273A, "H GAS" FOR 75-14-273B, "FS SMOKE" FOR 75-14-273C.
- A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL, TO THE REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.

L - PRESS FIT CLOSURE TO BE ACCOMPLISHED WITH THE FOLLOWING LUBRICANT:
WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL..... 93%
LINSEED OIL, BOILED..... 7%
ABOVE PERCENTAGES BY WEIGHT.

PAD 75-14-273 G3
FELT, NO. 10
DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	GRADE	SPEC. NUMBER	APPROX. UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
1	SHELL LOADING ASSEMBLY (WP)		75-14-273A				96-131-68	32.69		
2	SHELL LOADING ASSEMBLY (H)		75-14-273B				96-131-67	31.80		
3	SHELL LOADING ASSEMBLY (FS)		75-14-273C				96-131-69	33.24		
4	METAL PARTS ASSEMBLY	1	75-4-91C				50-30-1	26.58		
5										
6	BURSTER, CASING, M5 ASSEMBLY	1	73-1-172A				50-47-6	1.48		
7	BURSTER, CASING, M5 (ALTERNATIVE)	1	73-1-172B				50-47-6	1.53		
8	CHARGE, BURSTER, M5 ASSEMBLY	1	73-1-177A				50-52-1	.51		
9	CHARGE, GAS	1	75-14-273E		GAS, PERSISTENT (H)		196-21-2	3.17		
10	CHARGE, SMOKE	1	75-14-273F		CHLOROSULFONIC ACID-SULFUR TRIOXIDE SOL (FS)		196-31-5	4.61		
11	CHARGE, SMOKE	1	75-14-273D		WHITE PHOSPHORUS (WP)		4-523-305	4.06		(a)
12	CUP, FUZE WELL	1	75-14-379B	CAST				.06		
13	PAD	1	75-14-273G	ROLL	PRESSED FELT	NO. 10	8-15			
14										
15										
16					GREASE, SHELL		50-11-37			
17					COMPOUND, NRC		50-11-10			(b)
18					COMPOUND, RUST PREVENTIVE	HEAVY	2-82			
19					LACQUER ENAMEL, BLUE GRAY	I	JAN-L-73			(c)
20					LACQUER ENAMEL, GREEN	I	JAN-L-73			(d)
21					LACQUER ENAMEL, YELLOW	I	JAN-L-73			(e)
22					LINSEED OIL		JU-O-331			
23					WHITE LEAD		TT-W-261			
24										

- (a) INCLUDES LAYER OF WATER 1/8 IN. THICK.
(b) ALTERNATIVE: PETTMAN CEMENT, TYPE I OR II, SPEC. JAN-C-99
(c) ALTERNATIVE: ENAMEL, BLUE GRAY, GRADE I, SPEC. JAN-E-74
(d) ALTERNATIVE: ENAMEL, GREEN, GRADE I, SPEC. JAN-E-74 OR INK, GREEN, SPEC. TT-I-55B
(e) ALTERNATIVE: ENAMEL, YELLOW, GRADE I, SPEC. JAN-E-74 OR INK, STENCIL YELLOW, SPEC. TT-I-55B

LIST OF SPECIFICATIONS

LINE NO.	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1 DRG. 75-14-273
2	CEMENT, PETTMAN	JAN-C-99 DRG. 75-14-273
3	CHLOROSULFONIC ACID-SULFUR TRIOXIDE SOLUTION (FS)	196-31-5 DRG. 75-14-273
4	COMPOUND, NRC	50-11-10 DRG. 75-14-273
5	COMPOUND, RUST PREVENTIVE, HEAVY	2-82 DRG. 75-14-273
6	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74 DRG. 75-14-273
7	FELT, PRESSED	8-15 DRG. 75-14-273
8	GAS, MUSTARD (H)	196-21-2 DRG. 75-14-273
9	INK, STENCIL	TT-I-55B DRG. 75-14-273
10	LACQUER ENAMEL, LUSTRELESS	JAN-L-73 DRG. 75-14-273
11	LINSEED OIL, BOILED	JU-O-331 DRG. 75-14-273
12	GREASE, SHELL	50-11-37 DRG. 75-14-273
13	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1 JAN-L-73
14	PHOSPHORUS, WHITE (WP)	4-523-305 DRG. 75-14-273
15	FILLING, 105 MM CHEM. SHELL, M60 (WP=96-131-68) (H=96-131-67) (FS) 96-131-69	DRG. 75-14-273
16	WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL	TT-W-261 DRG. 75-14-273

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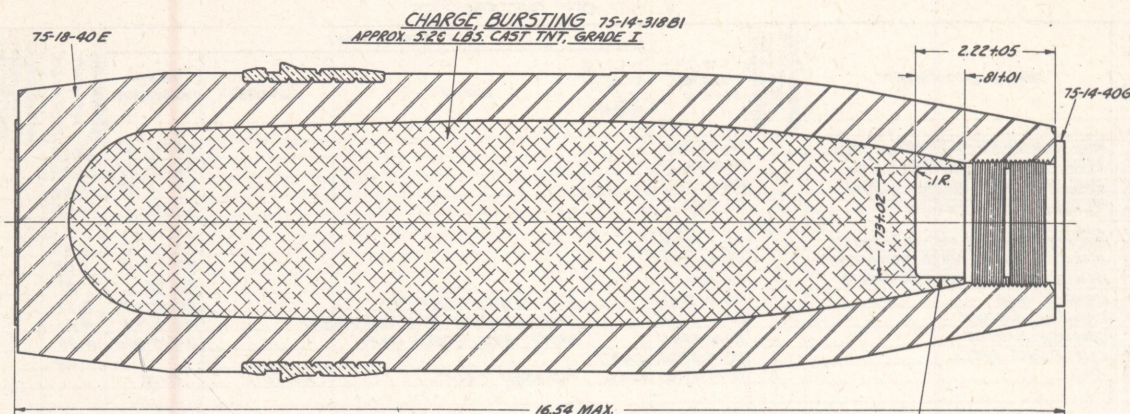
LIST OF DRAWINGS

LINE NO.	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY 75-14-273
2	METAL PARTS ASSEMBLY 75-4-91
3	CASING, BURSTER, M5 ASSEMBLY 73-1-172
4	CHARGE, BURSTER, M5 ASSEMBLY 73-1-177
5	LOADING ACCESSORIES FOR PROJECTILES 75-14-379
6	

SUPERSEDES OLD TRACINGS 75-14-273, 75-14-274 & 75-14-275, UNDER REVISION DATE OF 2-8-45

SHELL, CHEMICAL, 105 MM, M60 LOADING ASSEMBLY MARKING DIAGRAM AND DETAILS

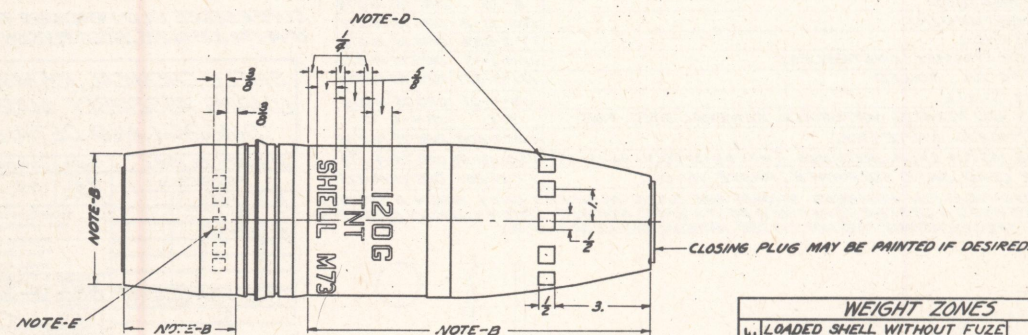
JANUARY 21, 1941	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	273	
2 9-23-42				
3 2-8-45				
4 8-15-45				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMALS FRACTIONAL ANGULAR				
DESIGNED: <i>W.H.A.</i> CHECKED: <i>W.H.A.</i> SUBMITTED: <i>W.H.A.</i> EXAMINED: <i>W.H.A.</i> APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>C.S. Reed</i> COL., ORDN. DEPT., U.S.A.				
ORDNANCE DEPT., U.S.A.				



SHELL LOADING ASSEMBLY 75-14-318A4
MEAN VOLUME OF CHARGE CAVITY LESS BOOSTER CAVITY = 92 CU. IN.

APPROX. WEIGHTS	POUNDS
TNT	
SHELL WEIGHT, EMPTY	42.13 ±.75
CHARGE, BURSTING	5.26
TOTAL WEIGHT, UNFUZED	47.39
PLUG, CLOSING	.37
SHIPPING WEIGHT	47.76

NOTE
TNT CHIPPED OR BROKEN FROM
THE SIDE WALL OF THE BOOSTER
CAVITY NEED NOT BE REPLACED.



NOTES:-
A-MARK WITH YELLOW MARKING INK.
B-RETOUCH SURFACE OF SHELL WHERE PREVIOUS COAT IS DAMAGED
WITH OLIVE DRAB LACQUER ENAMEL, OR ENAMEL.
C-A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE
REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.
D-SAMPLE WEIGHT MARKING.
E-INSERT LOT NUMBER (INCLUDING LOADERS INITIALS OR SYMBOL).

WEIGHT ZONES			
ZONE	LOADED SHELL WITHOUT FUZE		MARK
	OVER POUNDS	UP TO & INCLUDING POUNDS	
3	46.38	47.27	□□□
4	47.13	48.02	□□□□
5	47.88	48.77	□□□□□

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECEMARK	SIZE OR FORM	MATERIAL	GRADE	SPEC. NO.	APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
1	SHELL LOADING ASSEMBLY		75-14-318A				50-15-5	47.76		
2	METAL PARTS SHIPPING ASSEMBLY	1	75-14-40E				50-30-1	42.13		
3										
4	CHARGE, BURSTING	1	75-14-318B	CAST	TRINITROTOLUENE	I	50-13-5	5.26		
5										
6										
7										
8										
9										
10										
11	PLUG, CLOSING	1	75-14-40G				57-93-2	.37		(A)
12										
13					INK, MARKING, YELLOW		36-2			
14					LACQUER ENAMEL, OLIVE DRAB	I	3-162			(B)
15										

LIST OF SPECIFICATIONS

LINE NO.	SPEC. NUMBER *	REQUIRED BY
1		
2	AMMUNITION, EXCEPT SMALL ARMS AMM., GEN. SPEC. FOR	50-0-1 DRG. 75-14-318
3		
4		
5	INK, MARKING	36-2 DRG. 75-14-318
6	LACQUER ENAMEL, LUSTRELESS	3-162 DRG. 75-14-318
7	LOADING OF HIGH EXPLOSIVE SHELL WITH TRINITROTOLUENE	
8	(TNT), CASTING METHOD,	
9	ASSEMBLING AND PACKING	50-15-5 DRG. 75-14-318
10		
11	PAINTS AND RELATED MATERIALS, GENERAL SPECS FOR	3-1 3-162
12	ENAMEL, LUSTRELESS	3-67 DRG. 75-14-318
13	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2 DRG. 75-14-318
14		
15	TRINITROTOLUENE (TNT)	50-13-5 DRG. 75-14-318
16		

(A) REQUIRED WHEN BOOSTER OR FUZE IS NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING.
(B) ALTERNATIVE- OLIVE DRAB ENAMEL, GRADE I, SPEC. 3-67.

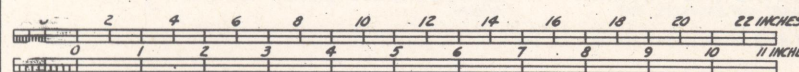
LIST OF DRAWINGS

LINE NO.	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY 75-14-318
2	METAL PARTS SHIPPING ASSEM. 75-14-40
3	PLUGS, CLOSING, FOR PROJECTILES 75-14-40
4	

NOTICE: THIS DRAWING SHALL NOT BE USED FOR PRODUCTION WITHOUT THE AUTHORITY OF THE U.S. GOVERNMENT. ANY REVISIONS SHALL BE AUTHORIZED BY THE U.S. GOVERNMENT.

SHELL, H.E. 120-MM, M 73
LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS.

NOVEMBER 19, 1941	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	318	
1 6-9-42				
2 9-23-42				
3 4-9-43				
4 8-15-43				
SYMBOL				
DRG. PERTAINS TO				
OFFICER	A.E.R.	TRACER	R.M.D.	ENGINEER
CHECKER	E.A.P.	CHECKER	M.T.	CHIEF OFFICER
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
LT. COL. ORN. DEPT. U.S.A.				
ORDNANCE DEPT. U.S.A.				

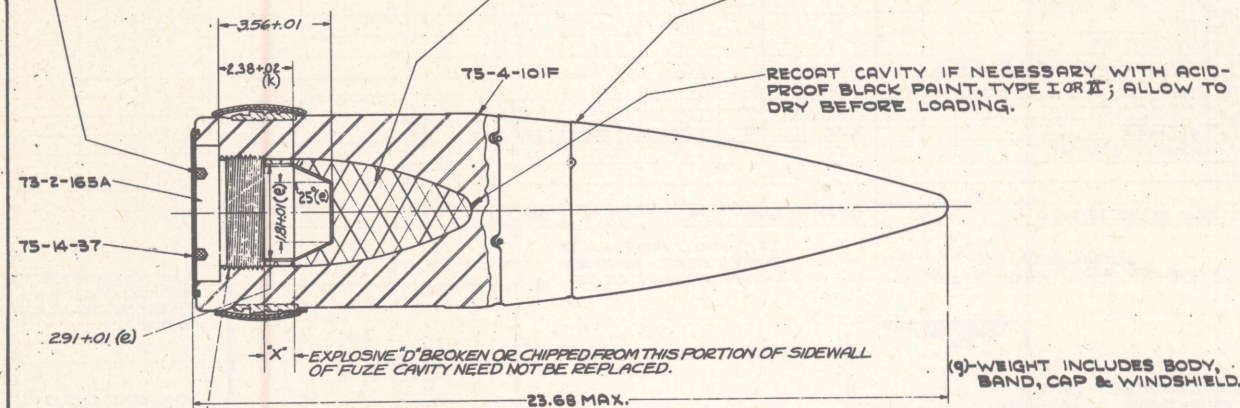


P-41748

NOTE: - AFTER ASSEMBLING FUZE IN PROJECTILE INSERT AND PEEN WRENCH HOLE FILLING PLUGS AND FINISH FLUSH WITH SURFACE OF FUZE.

CHARGE, BURSTING TS-14-320B1 APPROX. 1.44 LBS., EXPLOSIVE "D".

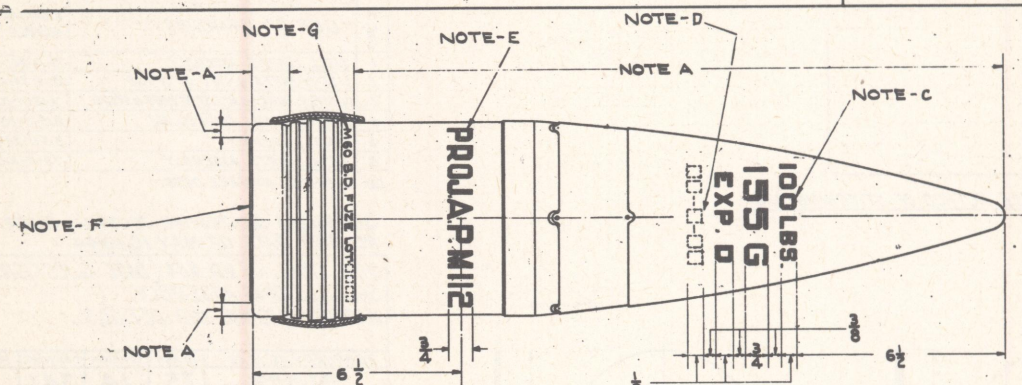
WINDSHIELD TO BE REMOVED BEFORE ASSEMBLING FUZE. AFTER ASSEMBLING FUZE, SCREW WINDSHIELD DOWN FIRMLY & SECURE BY STAKING.



(e) TOOL DIMENSIONS
(k) FOR ALTERNATIVE LOADING, FILL CAVITY TO THIS DIMENSION AND COAT THREADS OF PROJECTILE AND FUZE, LIGHTLY, WITH SHELL GREASE BEFORE ASSEMBLING.

APPROX. WEIGHTS	POUNDS
PROJECTILE, EMPTY, (g)	88.71 ± 1.5
CHARGE, BURSTING (EXPLOSIVE "D")	1.44 (f)
COVER, BASE, COMPLETE	.63
FUZE, B.D., M60	9.22
RING, FILLER	.10 (f)
TOTAL WEIGHT	100.00
GROMMET, ASSEMBLY	.70
SHIPPING WEIGHT	100.70

SHELL LOADING ASSEMBLY TS-14-320A2
MEAN VOLUME OF CHARGE CAVITY, FUZE ASSEMBLED = 27.5 CU. IN.
(f) FOR ALTERNATIVE LOADING WEIGHT OF CHARGE = 1.34 LBS., AND FILLER RING IS USED.



MARKING DIAGRAM

- NOTES: -
- A - RECOAT THE EXTERIOR SURFACE AS INDICATED WITH YELLOW LACQUER ENAMEL, OR YELLOW ENAMEL.
 - B - MARK WITH BLACK STENCIL PAINT, ENAMEL OR LACQUER ENAMEL.
 - C - INSERT WEIGHT, AS FIRED, TO NEAREST POUND.
 - D - INSERT LOT NUMBER OF LOADED PROJECTILE.
 - E - INSERT - PROJECTILE AP M112, OR PROJECTILE AP M112B1, AS APPLICABLE.
 - F - INSERT - SHORT DELAY - ON BASE COVER, WITH 1/2 LETTERS.
 - G - STAMP WITH 1/2 LETTERS AND FIGURES, FUZE DESIGNATION AND LOT NUMBER ON ROTATING BAND, AS SHOWN.
 - H - A SERIAL NUMBER, OR PROCESS-CONTROL MARKING, MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND, IN LETTERS OR FIGURES NOT OVER 1/2 HIGH.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQ. PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	GRADE	SPEC. NUMBER	APPROX. UNIT WEIGHT (POUNDS)	APPROX. STOCK PER UNIT OF PROJ. ASSEMBLY	REMARKS
1	PROJECTILE LOADING ASSEMBLY		TS-14-320A			CLASS "A"	50-15-1	100.00		
2	PROJECTILE METAL PARTS ASSEMBLY	1	TS-4-101F				AXS-661	88.71		
3	FUZE, B.D., M60 ASSEMBLY	1	TS-2-165A				PXS-889	9.22		
4	BASE COVER ASSEMBLY	1	TS-14-37	TYPE III				.63		
5	CHARGE, BURSTING	1	TS-14-320B		EXPLOSIVE "D"		JAN-A-166	1.44		
6	RING, FILLER	1	TS-14-320C	MOLDED	PLASTIC		AXS-698	.10		(h)
7	PROJECTILE METAL PARTS ASSEM (ALT)		TS-4-108F				AXS-661	88.71		
8					GREASE SHELL		50-11-37			
9										
10										
11					LACQUER ENAMEL, YELLOW	I	JAN-L-73			(a)
12					PAINT, ACID-PROOF BLACK	TYPE I OR II	3-106			
13					PAINT, STENCIL BLACK		3-179			(b)
14										

- (a) - ALTERNATIVE; ENAMEL, YELLOW, GRADE I, SPEC. JAN-L-73.
(b) - ALTERNATIVE; ENAMEL, BLACK, GRADE I, SPEC. JAN-L-73, OR LACQUER ENAMEL, BLACK, GRADE I, SPEC. JAN-L-73
(h) - USED WITH ALTERNATIVE LOADING ONLY.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GEN. SPEC. FOR	50-0-1	DRG. TS-14-320
2	AMMONIUM PICRATE, EXPLOSIVE "D"	JAN-A-166	DRG. TS-14-320
3	FUZE, B.D., M60 LOADING, ASSEMBLING AND PACKING	PXS-889	DRG. TS-14-320
4	GREASE, SHELL	50-11-37	DRG. TS-14-320
5		5-7	DRG. TS-14-320
6	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DRG. TS-14-320
7	LOADING BASE FUZE SHELL WITH EXPLOSIVE "D" ASSEMBLING & PACKING	50-15-1	DRG. TS-14-320
8	PAINT, ACID-PROOF BLACK, FOR AMMUNITION	3-106	DRG. TS-14-320
9	PAINTS AND RELATED MATERIALS, GEN. SPECIFICATION FOR (c)	3-1	JAN-L-73
10	ENAMEL, LUSTRELESS	JAN-L-74	DRG. TS-14-320
11	PAINT, STENCIL	3-179	DRG. TS-14-320
12	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG. TS-14-320
13	PLASTIC MOLDED PARTS FOR AMMUNITION	AXS-698	DRG. TS-14-320
14			
15			

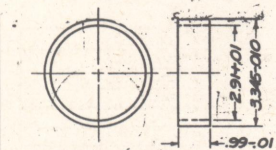
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY, WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	TS-14-320
2	METAL PARTS ASSEMBLY	TS-4-101
3	FUZE, B.D., M60	TS-2-165
4	COVER, BASE & WRENCH HOLES	TS-14-37
5	BOX, PACKING FOR, ETC.	TS-14-320
6	PACKING & MARKING OF BOX FOR 155MM AND 6 INCH PROJECTILES FILED 4-3-71	

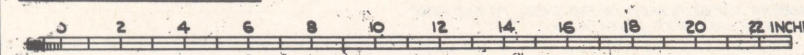
NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART, EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

PROJECTILE, A.P., 155 MM, M112 & M112B1
LOADING ASSEMBLY
MARKING DIAGRAM AND DETAILS

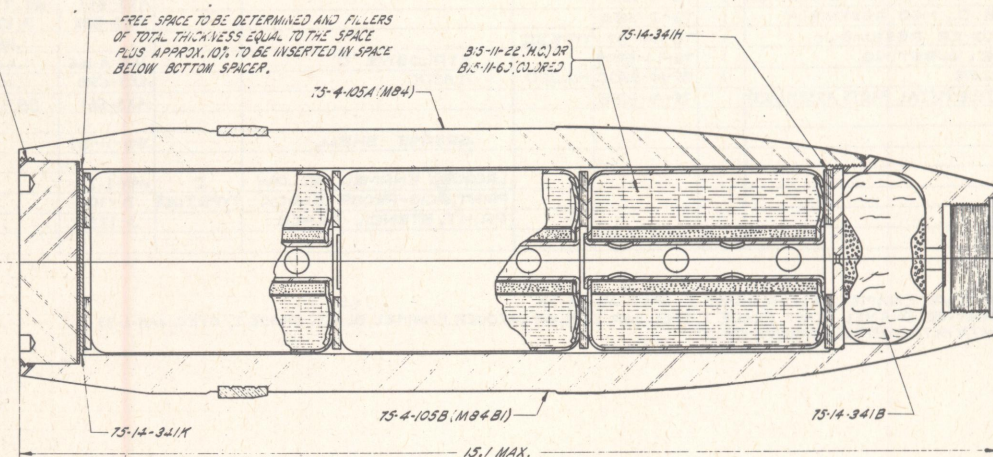
DECEMBER 10, 1941	CLASS	DIVISION	DRAWING FILE
REVISIONS			
1 5-8-42			
2 8-15-45			
DRG. PERTAINS TO	DESIGNED BY	TRACED BY	CHECKED BY
	REVISOR		
	SUBMITTED		
	EXAMINED		
	APPROVED BY ORDER OF THE CHIEF OF ORDNANCE		
	BRIG. GEN.		
	ORDNANCE DEPT., U.S.A.		



RING, FILLER TS-14-320C1
MOLDED PLASTIC COMPOUND

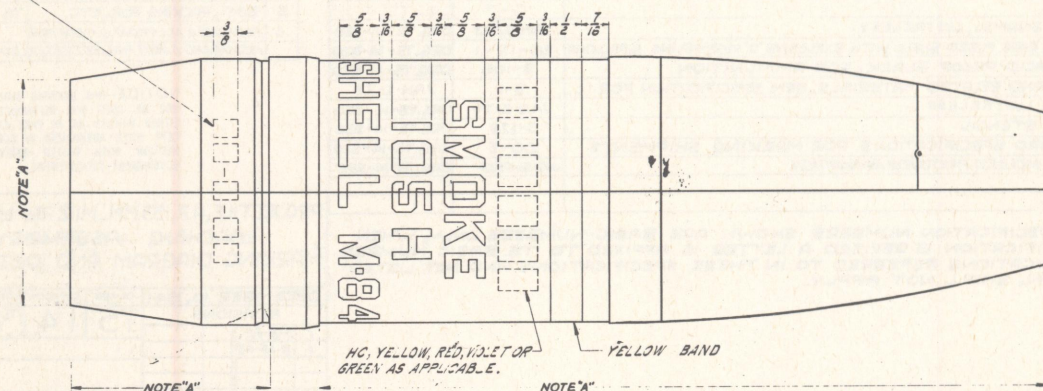


COAT BASE PLUG THREADS WITH N.R.C. COMPOUND, GRADE "A".
ASSEMBLE THE PLUG THEN STAKE LIGHTLY IN THE
THREADS AT 3 POINTS 120 DEGREES APART BEFORE
N.R.C. COMPOUND SETS.



SHELL LOADING ASSEMBLY 75-14-341A4 (M84 OR M84 B1)

INSERT LOT NUMBER, (M.S. 302.16)
LOADERS INITIALS OR SYMBOL.



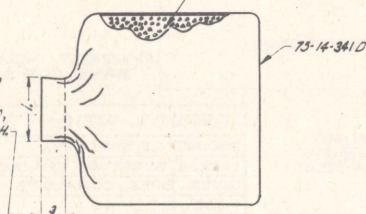
MARKING DIAGRAM

NOTES:-
 A- RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED WITH ENAMEL, BLUE-GRAY.
 RETOUCHING OF BASE AND SHELL TO THE REAR OF ROTATING BAND IS OPTIONAL.
 B- MARK WITH YELLOW LACQUER ENAMEL OR ENAMEL OR YELLOW MARKING INK.
 C- A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL, TO THE REAR
 OF THE ROTATING BAND, IN LETTERS AND FIGURES NOT OVER 1/8 INCH HIGH.

APPROXIMATE WEIGHTS	CHEMICAL H. G.	CHEMICAL YELLOW	CHEMICAL RED	CHEMICAL VIOLET	CHEMICAL GREEN
	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
SHELL, BODY AND ROTATING BAND	19.63	19.63	19.63	19.63	19.63
ADAPTER	1.84	1.84	1.84	1.84	1.84
GASKET	.08	.08	.08	.08	.08
CHARGE, BURSTING	.14	.14	.14	.14	.14
CHARGE, SMOKE, ASSEMBLIES (3-REQUIRED)	7.50	4.92	5.32	5.12	5.12
FILLERS	.01	.01	.01	.01	.01
PLATE, BAFFLE	.23	.23	.23	.23	.23
PLUG, BASE	1.98	1.98	1.98	1.98	1.98
SPACERS (4-REQUIRED)	.04	.04	.04	.04	.04
TOTAL WEIGHT, UNFUZED	31.43	28.87	29.27	29.07	29.07

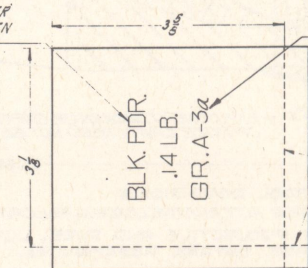
CHARGE, BURSTER 75-14-341C4
 .14-0.16 ARMY BLACK POWDER, GRADE A-3a

MACHINE LOCKSTITCHED
 WITH COTTON THREAD,
 TYPE 1-41, 3 CORD, NO. 20,
 8 TO 12 STITCHES PER INCH.



BURSTER ASSEMBLY 75-14-341B4

STAMPING SHOULD APPEAR ON OUTER
 SURFACE OF BAG AFTER BAG HAS BEEN
 STITCHED AND TURNED INSIDE OUT.

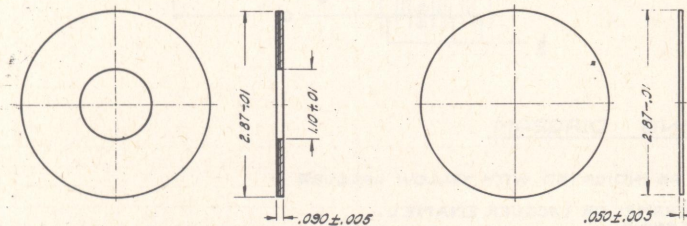


STAMP OR PRINT WITH LETTERS
 AND FIGURES NOT LESS THAN 1/8
 INCH HIGH, USE INDELIBLE MARKING
 INK, TYPE "B".

MACHINE LOCKSTITCHED WITH
 COTTON THREAD, TYPE 1-41, 3
 CORD, NO. 20, 8 TO 12 STITCHES
 PER INCH, THEN TURN BAG
 INSIDE OUT.

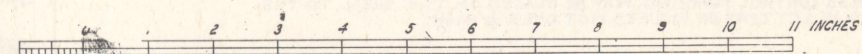
BAG, POWDER 75-14-341D4
 COTTON CAPRIDGE CLOTH, GRADE "C"
 DEVELOPMENT - 4, 17.

ALTERNATIVE METHOD OF STITCHING BAG



SPACER 75-14-341H
 BINDERS BOARD, COMMERCIAL
 SPECIFIC GRAVITY - 0.8 MIN, 1.0 MAX.

FILLER 75-14-341K
 BINDERS BOARD, COMMERCIAL
 SPECIFIC GRAVITY - 0.8 MIN, 1.0 MAX.



LINE	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-341
2	LIST OF PARTS & LIST OF SPECS.	75-14-341A
3	CANISTER, SMOKE, H.C.M.I., LIST OF DRGS & SPECS	A 15-11-20 (2)
4	CANISTER, SMOKE, COLORED, M2	B 15-11-80 (2)
5	SMOKE, ASSEMBLY	B 15-11-82 (2)
6	METAL PARTS ASSEMBLY	75-4-105

SUPERSEDES OLD TRACING 75-14-341 UNDER
 REVISION DATE OF MAY 10, 1944
 SHELL, SMOKE, 105 MM. M84 (BASE EJECTION).
 SHELL LOADING ASSEMBLY.
 MARKING DIAGRAM AND DETAILS.

FEBRUARY 16, 1942	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	341	
2 7-5-43				
3 5-10-44				
4 8-15-45				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRG. PERTAINS TO				
15-1-148				
15-1-189				
SUBMITTED:				
A. M. Gallagher				
EXAMINED:				
G. S. Reed				
ORDNANCE DEPT., U. S. A.				

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE-MARK	MATERIAL				APPROXIMATE WEIGHT (POUNDS)	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NO.		
1	SHELL LOADING ASSEMBLY		75-14-341A					31.45	
2	METAL PARTS ASSEMBLY MB4	1	75-4-105A				AXS-877	23.76	
3	METAL PARTS ASSEMBLY MB4B1	1	75-4-105B				AXS-877	23.76	
4									
5	BURSTER ASSEMBLY		75-14-341B					.14	
6	SMOKE ASSEMBLY (H.C.)	3	B15-11-22				196-131-73	2.50	(e)
7	SMOKE ASSEMBLY, M2, YELLOW	3	B15-11-60				196-131-162B	1.64	(e)
8	SMOKE ASSEMBLY, M2, RED	3	B15-11-60				196-131-162B	1.77	(e)
9	SMOKE ASSEMBLY, M2, VIOLET	3	B15-11-60				196-131-162B	1.71	(e)
10	SMOKE ASSEMBLY, M2, GREEN	3	B15-11-60				196-131-162B	1.71	(e)
11									
12	BAG, POWDER	1	75-14-341D	BOLT	COTTON CARTRIDGE CLOTH	"C"	50-11-65		
13	CHARGE, BURSTER	1	75-14-341C		ARMY BLACK POWDER	A-30	50-14-1	.14	
14									
15									
16									
17									
18									
19									
20									
21									
22	FILLER	(C)	75-14-341K	SHEET	BINDERS BOARD		COMMERCIAL	.01	
23									
24									
25									
26									
27									
28									
29									
30	SPACER	4	75-14-341H	SHEET	BINDERS BOARD		COMMERCIAL	.01	
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42					ENAMEL, BLUE-GRAY	I	3-67		
43									
44									
45					INK, MARKING, INDELIBLE	TYPE "B"	TT-1-542		
46									
47									
48					LACQUER ENAMEL, YELLOW	I	3-162		(b)
49					N.R.C. COMPOUND	"A"	50-11-10		
50									
51									
52									
53									
54					THREAD, COTTON	TYPE 1A1	V-T-276		
55									
56									

(b) ALTERNATIVE MATERIAL: -ENAMEL, YELLOW, GRADE I, SPEC. 3-67 OR INK, MARKING, YELLOW, SPEC. 36-2
 (c) ONE OR MORE FILLERS AS REQUIRED TO ASSEMBLE CONTENTS TIGHTLY.
 (e) USE ONE GROUP OF SMOKE ASSEMBLIES PER SHELL, AS APPLICABLE.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NO. *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GEN. SPEC. FOR	50-0-1	DRG. 75-14-341
2	CANISTER, SMOKE, COLORED, M2 (FOR 105MM. B.E. CHEMICAL SHELL, MB4)	196-131-162B	DRG. 75-14-341
3	CANISTER, SMOKE, HC, MI, FOR SHELL, CHEMICAL, 105MM. (BASE EJECTION)	196-131-73	DRG. 75-14-341
4	CLOTH, COTTON, CARTRIDGE	50-11-65	DRG. 75-14-341
5			
6			
7			
8			
9			
10			
11	INK, MARKING, INDELIBLE (FOR) FABRICS	TT-1-542	DRG. 75-14-341
12	INK, MARKING (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-341
13			
14	LACQUER ENAMEL, LUSTRELESS, FOR AMMUNITION	3-162	DRG. 75-14-341
15			
16	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-136
17	N.R.C. COMPOUND	50-11-10	DRG. 75-14-341
18	PAINTS AND RELATED MATERIALS, GEN. SPEC. FOR	3-1	3-162
19	ENAMEL, LUSTRELESS, QUICK-DRYING, FOR AMMUNITION	3-67	DRG. 75-14-341
20			
21			
22	POWDER, BLACK, ARMY	50-14-1	DRG. 75-14-341
23			
24	SHELL, SMOKE, BASE EJECTION TYPE, METAL PARTS FOR	AXS-877	DRG. 75-4-105
25			
26			
27			
28	THREAD, COTTON	V-T-276	DRG. 75-14-341
29			
30			
31			
32			

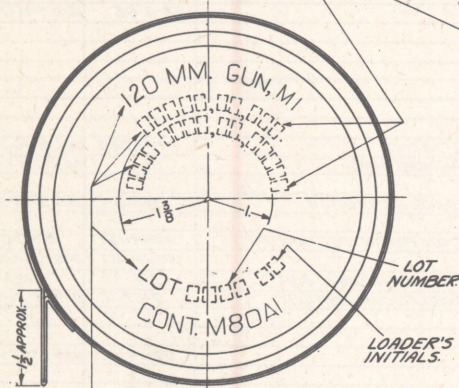
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

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SHELL, SMOKE, 105MM, MB4 (BASE EJECTION) SHELL LOADING ASSEMBLY, LIST OF PARTS AND LIST OF SPECIFICATIONS.					
FEBRUARY 16, 1942		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	341A	
1	12-1-42				
2	7-5-43				
3	5-10-44				
4	8-15-45				
SYMBOL					
DRG. PERTAINS TO					
75-14-341					
DFTSMAN		TRACER	ENGINEER		
A.E.R.		10.	M.T.		
CHECKER		CHECKER	CHIEF DFTSMAN		
E.H.F.		6.	M.T.		
SUBMITTED					
COL., ORG. DEPT. U.S.A.					
EXAMINED					
COL., ORG. DEPT. U.S.A.					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE					
BRIG. GEN., ORG. DEPT. U.S.A.					
ORDNANCE DEPT. U.S.A.					

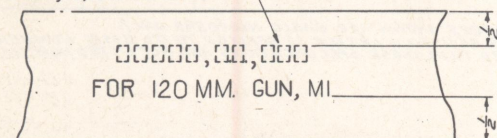
(a) INSERT ONE OR MORE FILLERS, 75-14-344B, AS REQUIRED TO PACK TIGHTLY, MAINTAINING GAP WITHIN DIMENSION SHOWN.

INSERT "SHELL, H.E. M73 WITH FUZE, MT, M61A1" OR "PROJECTILE, DUMMY, T5" AS APPLICABLE.

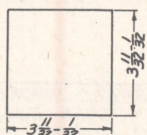


MARK BOTH ENDS AS SHOWN, USING WHITE MARKING INK. INSERT LOADER'S INITIALS AND LOT NUMBER LETTERS AND FIGURES TO BE NOT LESS THAN 1/4" HIGH. AFTER MARKING, COAT WITH CLEAN LACQUER OR SHELLAC.

INSERT "SHELL, H.E. M73" OR "PROJECTILE, DUMMY, T5" AS APPLICABLE.



MARKING OF SEALING STRIP
MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/4" HIGH, USING BLACK MARKING INK, EITHER BEFORE OR AFTER APPLICATION OF SEALING STRIP. MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER.



FILLER 75-14-344B
NO. 35 CHIPBOARD, PASTED OR PLAIN, .06 THICK, COMMERCIAL

STRIP SEALING
ADHESIVE TAPE, YELLOW
2 X 42, APPROX.

75-14-344A1

AFTER INSERTING SHELL, SECURE COVER BY APPLYING SEALING STRIP IN DIRECTION OPPOSITE TO THAT OF OUTER LAYER OF PAPER ON CONTAINER BODY.

76-1-603AP

76-1-420A

24 1/16 MAX.

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	PACKING AND MARKING	75-14-344
2	SUPPORT	76-1-420

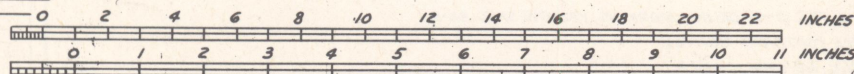
PACKING AND MARKING APPLIES TO THE FOLLOWING SHELL, FOR 120 MM GUN, M1:
SHELL, H.E. M73, WITH M61A1 MECHANICAL TIME FUZE.
PROJECTILE, DUMMY, T5

FOR PACKING AND MARKING OF BOX SEE DRG. 20-4-912.

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE-MARK	MATERIAL			APPROXIMATE WEIGHT (POUNDS)	APPROX GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	SUPPORT ASSEMBLY	1	76-1-420A					1.6	
2	FILLER	(a)	75-14-344B	SHEET	CHIPBOARD, PASTED OR PLAIN		COMMERCIAL		
3	STRIP, SEALING	1	75-14-344A	STRIP	ADHESIVE TAPE, YELLOW		50-11-81	.04	
4					INK, MARKING, BLACK AND WHITE		36-2		
5					LACQUER, CELLULOSE NITRATE		3-158		
6					YARNISH, SHELLAC		TT-V-91		

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-14-344
2			
3	INK, MARKING, BLACK AND WHITE (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-344
4	LACQUER, CELLULOSE NITRATE	3-158	DRG. 75-14-344
5	VARNISH, SHELLAC	TT-V-91	DRG. 75-14-344
6	TAPE, ADHESIVE, COLORED AND WHITE	50-11-81	DRG. 75-14-344

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.



PACKING AND MARKING OF CONTAINER, FIBER, 120 MM, M80A1

MARCH 3, 1942

REVISIONS

1	8-15-45
---	---------

CLASS 75 DIVISION 14 DRAWING 344

SYMBOL

DRG. PERTAINS TO

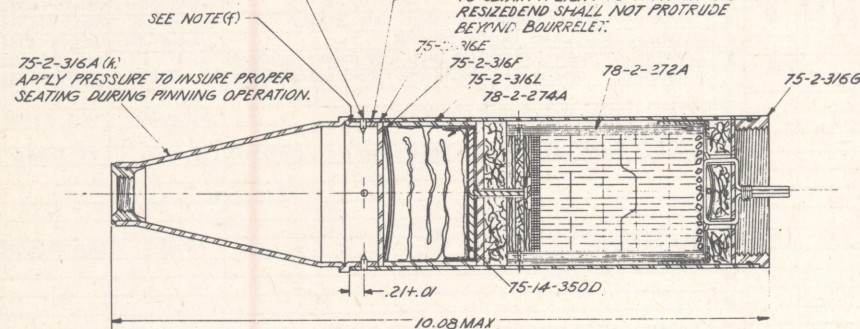
EXAMINED BY: *H. H. Haller*
LT. COL., ORG. DEPT. U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: *W. H. Haller*
LT. COL., ORG. DEPT. U. S. A.

ORDNANCE DEPT. U. S. A.

SUPERSEDED BY 76-1-1138 WITH CHANGE NOVEMBER 2, 1949.

COAT END OF COUPLING WITH PETTMAN CEMENT, THEN PRESS TAIL ASSEMBLY INTO BODY TUBE BEFORE CEMENT SETS. DRILL 4 HOLES, .0890 IN. DIA, EQUALLY SPACED. PRESS SHEAR PIN, 75-14-350B, IN PLACE.



(f) GAP OF .01 MAX PERMITTED BETWEEN END OF BODY TUBE AND BOURRELET PROVIDED TUBE SHOULDERS AGAINST BOURRELET AT MIN OF ONE POINT IN EACH QUADRANT OF CIRCUMFERENCE.

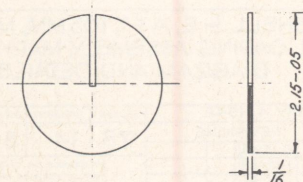
(g) THE CONCENTRICITY AND ALIGNMENT OF THE ASSEMBLY SHALL BE SUCH THAT WITH A SIMULATED FIN AND FUZE ATTACHED, THE ASSEMBLY WILL FREELY ENTER A CHAMBER GAGE 2.386 IN. DIAMETER AND 1.4 IN. LONG. SIMULATED FIN SHALL EQUAL MAXIMUM DIMENSIONS AND MAXIMUM ECCENTRICITY OF FIN ASSEMBLY, 75-2-285A. SIMULATED FUZE SHALL BE A 60 THREAD GAGE HAVING A SHOULDER DIAMETER OF 2.343 AND SHOULDER LENGTH OF .75. NOTE: THIS REQUIREMENT IS AN ALTERNATIVE FOR GAGING ECCENTRICITY OF TAIL ASSEMBLY, 75-2-316A, GA-2538A OR GA-2784A AND BODY TUBE ASSEMBLY, 75-2-316G.

(h) FOR SUBSTITUTE TAIL ASSEMBLIES, SEE GA-2538A OR GA-2784A.

(g) BODY ASSEMBLY 75-14-350A6

COAT ENTIRE EXTERIOR SURFACE, EXCEPT BOURRELET, WITH BLUE GRAY LACQUER ENAMEL, OR BLUE GRAY ENAMEL.

(h) BOURRELET MAY BE SPRAY PAINTED AT SAME TIME OTHER SURFACES ARE COATED, PROVIDED FILM THICKNESS DOES NOT EXCEED .0006. THERE SHALL BE NO BLISTERS OR DROPLETS OF PAINT ON BOURRELET OR AT JUNCTURE OF BOURRELET AND BODY TUBE. DO NOT RETOUCH BOURRELET.



DISC, SEPARATOR 75-14-350D3
CHIPBOARD

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

SUPERSEDES 75-14-350 WITHOUT CHANGE, NOV 15, 1948.

LIST OF PARTS

LINE NO	NAME OF PART	NUMBER REQD PER COMPONENT	PIECEMARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	APPROXIMATE VOLUME (CUBIC INCHES)	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC NUMBER			
1	BODY ASSEMBLY		75-14-350A				50-54-7	40.		
2	BODY TUBE ASSEMBLY		75-2-316G					1.40		(A)
3	ILLUMINANT ASSEMBLY		78-2-272A							
4	PARACHUTE ASSEMBLY		78-2-274A							
5	TAIL ASSEMBLY		75-2-316A					7.36		(m)
6										
7	ADAPTER	1	75-2-316K	BAR	STEEL	(A)	QQ-S-671			(a)
8	ADAPTER, FIN	1	75-2-316B	BAR	STEEL	(A)	QQ-S-671			
9	CONE	1	75-2-316C	SHEET	STEEL	WD1010	57-136			
10										
11	DISC, SEPARATOR	1	75-14-350D	SHEET	CHIPBOARD		COMMERCIAL			
12	DISC, PARACHUTE	1	75-2-316F	SHEET	CHIPBOARD		COMMERCIAL			
13	DISC, COUPLING	1	75-2-316E	STRIP	STEEL	WD1010	57-136			(h)
14										
15	PIN, SHEAR	4	75-14-350B	WIRE	BRASS	B	QQ-W-321			
16	SPACER, PARACHUTE	2	75-2-316L	STRIP	STEEL	WD1010	57-136			(h)
17	TUBE, BODY	1	75-2-316H	TUBING	STEEL, TYPE I, III OR IV	WD1010/1035	57-180			
18					LACQUER ENAMEL, BLUE GRAY	I	JAN-L-73			(c)
19					PRIMER, SYNTHETIC, LACQUER-RESISTING		JAN-P-72			
20					SOLDER, SILVER	CLASS I	QQ-S-561			
21					CEMENT, PETTMAN		JAN-C-99			

(a) ALTERNATIVE MATERIAL: TUBING, STEEL, TYPE I, III OR IV, WD1010 TO 1035, COLD-DRAWN, SPEC 57-180

(b) FS1010 TO FS1035, FS1115, FS1120, FS1134, OR FS1135.

(c) ALTERNATIVE MATERIAL: BLUE GRAY ENAMEL, GRADE I, SPEC JAN-E-74

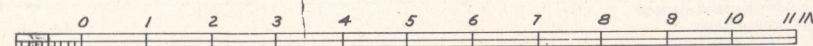
(d) SUBSTITUTE TAIL ASSEMBLY, GA-2784A, OR GA-2538A

(e) PROTECTIVE FINISH: TYPE I, CLASS TS, RS, OR RSC, SPEC 57-0-2.

(f) INSIDE OF TAIL ASSEMBLY, EXCEPT THREADS, MAY BE COATED WITH PRIMER, SYNTHETIC, LACQUER-RESISTING, IN LIEU OF PLATING.

LINE NO	LIST OF SPECIFICATIONS	SPEC NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC FOR	50-0-1	DWG 75-14-350
2			
3	CEMENT, PETTMAN	JAN-C-99	DWG 75-14-350
4			
5	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DWG 75-14-350
6			
7	FINISHES, PROTECTIVE, FOR IRON & STEEL PARTS	57-0-2	DWG 75-2-316
8			
9	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DWG 75-14-350
10			
11	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-136
12			
13	PAINTS AND RELATED MATERIALS, GENERAL SPEC FOR	3-1	JAN-L-73
14	PRIMER, SYNTHETIC, LACQUER-RESISTING	JAN-P-72	DWG 75-14-350
15			
16	ROUND, COMPLETE AND BODY ASSEMBLY, SHELL, ILLUM, M83A1	50-54-7	DWG 75-14-350
17			
18	SOLDER, SILVER	QQ-S-561	DWG 75-2-316
19	STEEL, CARBON AND ALLOY, BARS	QQ-S-671	DWG 75-2-316
20	STEEL, CARBON AND ALLOY, SHEET AND STRIPS	57-136	DWG 75-2-316
21			
22	TUBING, MECHANICAL OR STRUCTURAL, STEEL, CARBON AND ALLOY, SEAMLESS	57-180	DWG 75-2-316
23			
24	WIRE, BRASS	QQ-W-321	DWG 75-14-350

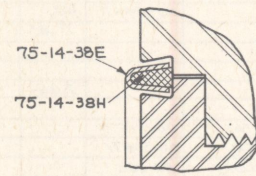
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HERE ON, SHALL NOT APPLY.



LINE NO	LIST OF DRAWINGS	DRAWING NUMBER
1	BODY ASSEMBLY	75-14-350
2	ILLUMINANT ASSEMBLY	78-2-272
3	PARACHUTE ASSEMBLY	78-2-274
4	DETAILS	75-2-316
5	DETAILS	GA-2538
6	DETAILS	GA-2784

SHELL, ILLUMINATING, 60MM, M83A1
BODY AND LOADING ASSEMBLY

APRIL 9, 1942	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	350	
5 8-15-45				
6 11-15-48				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRAWN	TRACED	ENGINEER		
G.A.B.	J.M.G.			
CHECKED	APPROVED			
10-1-48				
SUBMITTED:				
ORD. ENG. OR. DEPT. U.S.A.				
EXAMINED:				
COL. ORD. DEPT. U.S.A.				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
COL. ORD. DEPT. U.S.A.				
ORDNANCE DEPT. U.S.A.				

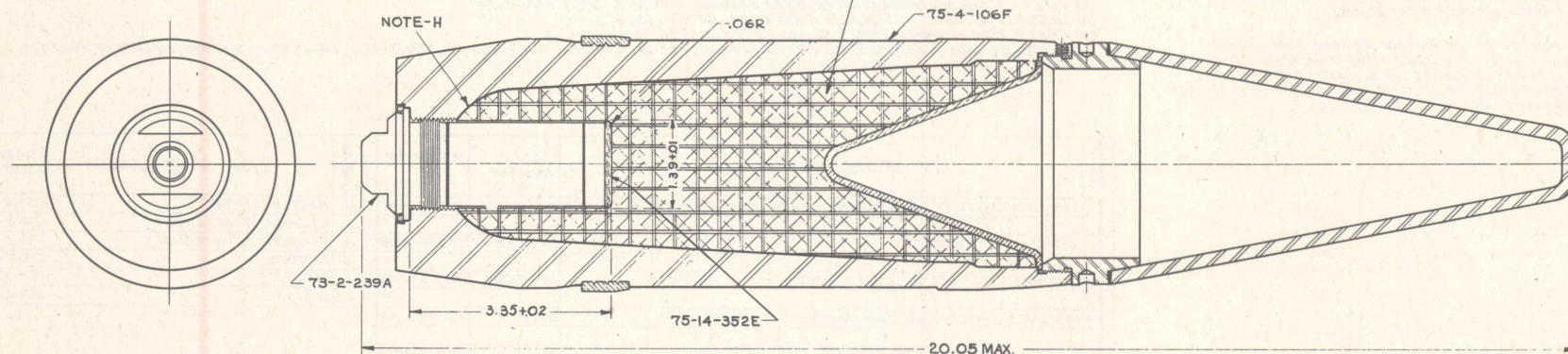


ENLARGED VIEW
BEFORE CALKING
4

LIST OF PARTS										LIST OF SPECIFICATIONS		
LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECEMARK	SIZE OR FORM	MATERIAL	GRADE	SPEC NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX GROSS WT OF PARTS TO BE USED IN ASSEMBLY	REMARKS	SPEC NUMBER	REQUIRED BY
1	SHELL, LOADING ASSEMBLY		75-14-352A				PXS-1004	29.45			50-O-1	DRG 75-14-352
2	CHARGE	1	75-14-352C	CAST	COMPOSITION B	I	JAN-C-401	3.08			JAN-C-401	DRG 75-14-352
3	CHECK, GAS	1	75-14-38E	STRIP	COPPER SOFT		QQ-C-501	.01			QQ-C-501	DRG 75-14-38
4	DISC	1	75-14-352E	ROLL	FELT, PRESSED	NO. 10 1/2	8-15				JAN-E-74	DRG 75-14-352
5	FILLER	1	75-14-38H	MOULDED	LEAD, SOFT	SOFT	COMMERCIAL	.02			50-15-5	DRG 75-14-352
6											TT-I-558	DRG 75-14-352
7	FUZE, B D M91 ASSEMBLY	1	73-2-239A					1.38			QQ-M-151	QQ-C-501
8												
9	METAL PARTS ASSEMBLY	1	75-4-106F				PXS-988	24.96			TT-P-141	TT-I-558
10												
11												
12												
13												
14												
15					ENAMEL, OLIVE DRAB	I	JAN-E-74				8-15	DRG 75-14-352
16					INK, STENCIL, YELLOW		TT-I-558					
17												

a. SPEC JAN-C-401 APPLIES EXCEPT THAT EFFLUX VISCOSITY TO BE 7±2 SECS. ADVISORY: OPTIMUM POURING TEMPERATURE 85±2°C.

CHARGE 75-14-352C6
APPROX 3 LBS, 1.0Z, CAST COMPOSITION B, GRADE I

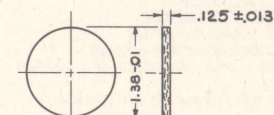
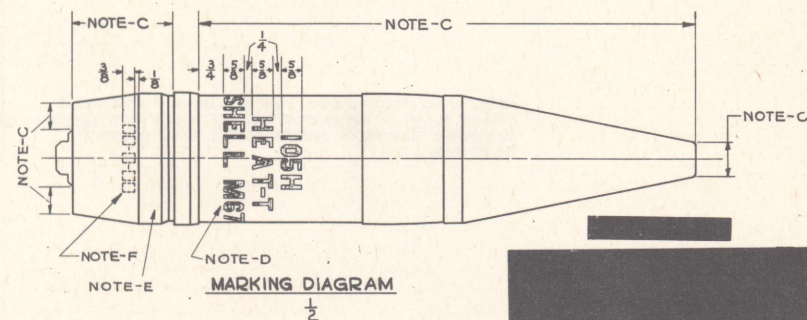


SHELL, LOADING ASSEMBLY 75-14-352 A 6

NOTES:-

C-RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB. COMPLETE RECOATING OF THESE SURFACES OPTIONAL.
D-MARK WITH YELLOW STENCIL INK.
E-A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND, IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.
F-INSERT LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER), WHEN LOTTING IS REQUIRED.

H-EXPLOSIVE CHARGE CHIPPED OR BROKEN FROM THE SIDE WALL OF THE BOOSTER CAVITY, IN ONE OR MORE PLACES, TO A DEPTH OF NOT MORE THAN 0.5 INCHES, AND INCLUDING IN THE AGGREGATE A CIRCUMFERENCE OF NOT MORE THAN 180 DEGREES NEED NOT BE REPLACED.
I-BOURRELET, AFTER RECOATING SHALL PASS 4.132 RING GAGE.



DISC 75-14-352E4
FELT, PRESSED, NO. 10 1/2
DIAMETER DIMENSION CONTROLS
TOOL MANUFACTURE.

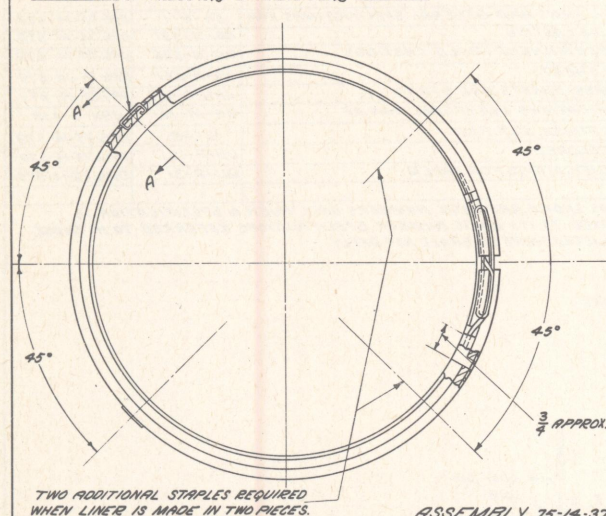
NOTICE: THIS DRAWING SHALL NOT BE USED AS A REPRODUCTION OF THE ORIGINAL DRAWING WITHOUT THE WRITTEN AUTHORIZATION OF THE CHIEF OF ORDNANCE, U.S.A.

SUPERSEDES 75-14-352 WITH CHANGE
AUGUST 15, 1945

SHELL H E, A-T-T, 105MM, M67
LOADING ASSEMBLY, MARKING
DIAGRAM AND DETAILS

MAY 4, 1942		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	352	
3	8-15-45				
4	5-12-49				
5	4-14-50				
6	7-19-50				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL ±					
FRACTIONAL ±					
ANGULAR ±					
DRG. PERTAINS TO					
DISTRIBUTION					
CHECKER					
SUBMITTED					
EXAMINED					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE					
D					
ORDNANCE DEPT., U.S.A.					

STAPLE 75-14-371R1
 .051 GALVANIZED WIRE $\frac{7}{16}$ INCH CROWN X $\frac{5}{16}$ INCH LEGS.



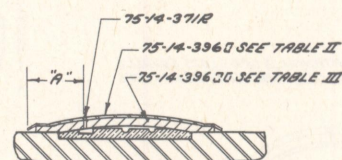
TWO ADDITIONAL STAPLES REQUIRED WHEN LINER IS MADE IN TWO PIECES.

ASSEMBLY 75-14-371S (SEE TABLE I)

METHOD OF FASTENING ENDS OF GROMMET (WHEN APPLIED TO PROJECTILE)

TIE 75-14-371S4
 WIRE IRON, SOFT, TYPE I, WD 1005 GALVANIZED

75-14-371S



SECTION A-A

ASSEMBLY - TABLE I

LINE NO.	CALIBER	PIECE MARKS				DIM. "A"	FOR PROJECTILE MODEL NUMBERS	REMARKS
		ASSEMBLY	WEIGHT POUNDS	HOUSING	LINER			
1	4.5 INCH	75-14-371A3	.45	75-14-396A	75-14-396AA	$\frac{15}{16}$	M-65	
2								
3								
4								
5	6 INCH	75-14-371B3	.80	75-14-396B	75-14-396BB	1.0	A.R.COM. XXXII	
6	6 INCH	75-14-371C3	.67	75-14-396C	75-14-396CC	$\frac{3}{4}$	T.P. II, MK. IRI	
7								
8								
9	155 MM.	75-14-371D3	.69	75-14-396D	75-14-396DD	$\frac{7}{8}$	M101, M101B1, M104, M104B1, M112, M112B1, M112B2, M117, T23	
10	155 MM.	75-14-371E3	.36	75-14-396E	75-14-396EE	$\frac{3}{4}$	M102, M105, M115, M115B1	
11	155 MM.	75-14-371F3	.43	75-14-396F	75-14-396FF	$\frac{3}{4}$	M103, M110, M116, M118	
12								
13								
14								
15								
16								
17	8 INCH	75-14-371G3	1.31	75-14-396G	75-14-396GG	1 $\frac{1}{4}$	MK. II, M103, M103	
18	8 INCH	75-14-371H3	1.07	75-14-396H	75-14-396HH	$\frac{7}{8}$	T.P. II	
19	8 INCH	75-14-371K3	.91	75-14-396K	75-14-396KK	1 $\frac{1}{4}$	M106, MK. I, MK. IRI	
20	240 MM.	75-14-371L4	1.44	75-14-396L	75-14-396LL	1 $\frac{1}{2}$	MK. III, RI	
21	240 MM.	75-14-371M4	1.76	75-14-396M	75-14-396MM	1 $\frac{1}{2}$	M114	
22								
23								
24								
25								
26								
27								
28								

LIST OF PARTS

LINE NO.	NAME OF PARTS	NUMBER REQD PER COMPONENT	PIECE-MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	APPROXIMATE WT. OF RAW STOCK PER UNIT ASSEMBLED	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER			
1	ASSEMBLY		SEE TABLE				PX5-1177	SEE TABLE I		
2										
3	HOUSING	1	SEE TABLE	SHEET	STEEL, HOT ROLLED		WD1010	57-136	SEE TABLE I	(d)
4										
5	LINER	1	SEE TABLE		FIBER			COMMERCIAL	SEE TABLE I	(f)
6										
7	STAPLES	2	75-14-371R	WIRE	STEEL, GALVANIZED			COMMERCIAL		(a)
8	TIE	2	75-14-371S	WIRE	IRON, SOFT, TYPE I, GALVANIZED		WD1005	48-5		
9										
10					ENAMEL OLIVE DRAB	II	JAN-E-74			(e)
11										
12					PRIMER, SYNTHETIC, LACQUER-RESISTING		JAN-P-72			
13										

(a) WHEN LINER IS MADE IN 2 PIECES, 4 STAPLES REQUIRED

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMA, GENERAL SPEC. FOR	50-0-1	DRG 75-14-371
2	PRINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	JAN-E-74
3	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DRG 75-14-396
4	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-135
5	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DRG 75-14-396
6	STEEL, CARBON AND ALLOY, SHEETS AND STRIPS	57-136	DRG 75-14-396
7	WIRE, SOFT IRON AND STEEL, BARE AND COATED	48-5	DRG 75-14-371
8			
9	PRIMER, SYNTHETIC, LACQUER-RESISTING	JAN-P-72	DRG 75-14-396
10	GROMMETS	PX5-1177	DRG 75-14-396
11			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

WITH NEW TRACING 75-14-396, -
 SUPERSEDES OLD TRACING 75-14-371
 UNDER REVISION DATE 1-23-43.

GROMMETS, FOR 4.5 IN, 6 IN, 155 MM,
 8 IN. AND 240 MM, PROJECTILES, ASSEMBLY,
 LIST OF PARTS AND LIST OF SPECS.

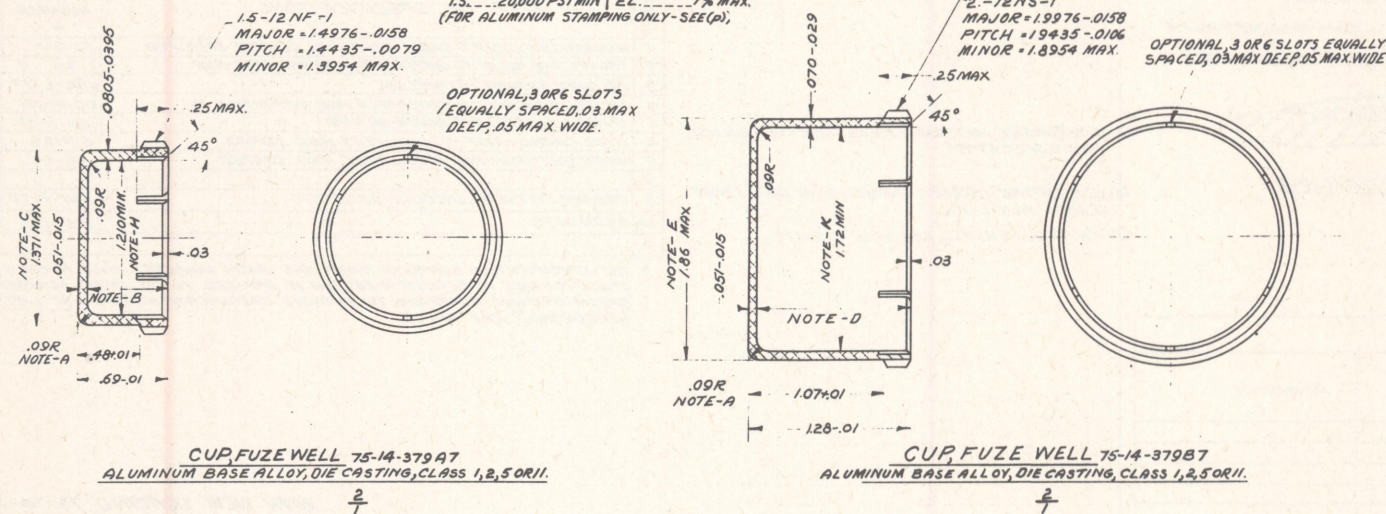
NOVEMBER 21, 1942		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	371	
1	1-23-43				
2	6-1-43				
3	8-31-43				
4	4-24-44				
5	8-15-45				
6	4-29-48				
DRG. PERTAINS TO		75-14-396			
OFFMAN		DRG. 75-14-396			
R.P.W.		DRG. 75-14-396			
CHECKED		DRG. 75-14-396			
SUBMITTED		DRG. 75-14-396			
EXAMINED		DRG. 75-14-396			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE		DRG. 75-14-396			
ORDNANCE DEPT. U.S.A.		ORDNANCE DEPT. U.S.A.			

SCALE 4

LINE NO.	NAME OF PART	NUMBER REQ PER COMPONENT	PIECE-MARK	MATERIAL				REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC NUMBER	
1	DISK, PAPER		75-14-379H	SHEET	PAPER, MAP		19-4B	(P)
2	DISK, PAPER		75-14-379K	SHEET	PAPER, MAP		19-4B	(P)
3	CUP, CLOSING		75-14-379G	SHEET	GILDING METAL		57-171-2	5 GRAIN
4	CUP, FUZE WELL		75-14-379A	CAST	ALUMINUM, BASE-ALLOY, DIE CASTING		88-A-591	.02 (P)(K)(C)
5	CUP, FUZE WELL		75-14-379B	CAST	ALUMINUM, BASE-ALLOY, DIE CASTING		88-A-591	.06 (P)(K)(C)
6								
7	DISK, PAPER		75-14-379L	SHEET	PAPER, MAP		19-4B	(P)
8					PRINTERS INK, BLACK		COMMERCIAL	

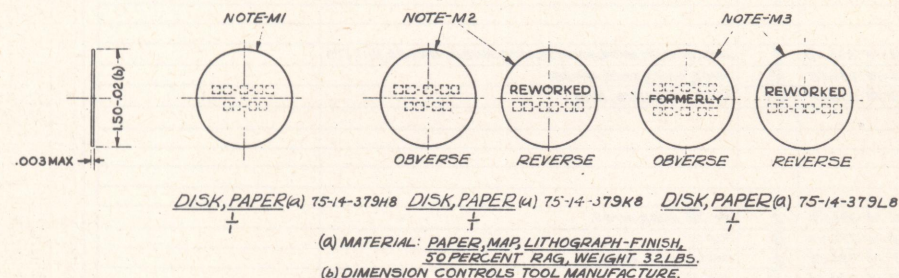
(K)-ALTERNATIVE: ALUMINUM-BASE-ALLOY; PERMANENT-MOLD-CASTING, SPEC. 88-A-596, EXCEPT COMPOSITION IN ACCORDANCE WITH CLASS 1, 2, 5 OR 11, SPEC. 88-A-591 OR CLASS 4, SPEC. 88-A-596.(S)
(P)-ALTERNATIVE: ALUMINUM PLATES AND SHEETS, SPEC. 88-A-561, MANUFACTURE BY STAMPING. PHYSICAL PROPERTIES TO BE DETERMINED ON SPECIMENS REMOVED FROM BOTTOM & SIDES OF 0.25% OF EACH LOT OF COMPLETED ITEMS.(S)
(R)-ALTERNATIVE: PAPER, BOND, TYPE C, 75 PERCENT, WHITE, WEIGHT 26 TO 32 POUNDS, SPEC. UU-P-121.(S)
(S)-ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.
(C) ROLLED THREADS PERMITTED.

PHYSICAL PROPERTIES
T.S. 20,000 PSI MIN. EL. 7% MAX.
(FOR ALUMINUM STAMPING ONLY-SEE (P))



NOTES:-
A-.036 MIN. PERMISSIBLE WALL THICKNESS MEASURED ALONG RADIUS.
B-MINIMUM DIMENSION AT CENTER, .629 TO ALLOW FOR CONVEXITY OF BOTTOM.
C-ECCENTRICITY BETWEEN THREADS AND 1.371 DIA., .010 MAX. (.020 DIAL INDICATOR READING).
D-MINIMUM DIMENSION AT CENTER, 1.219 TO ALLOW FOR CONVEXITY OF BOTTOM.
E-ECCENTRICITY BETWEEN THREADS AND 1.86 DIA. TO BE IN ACCORDANCE WITH ORDNANCE DEPT. GAGES.
F-DIMENSIONS CONTROL TOOL MANUFACTURE.
G THIS CUP MUST NOT BE PUNCTURED ON ANY PART OF ITS SURFACE.
H-ECCENTRICITY BETWEEN THREADS AND 1.210 DIA. TO BE IN ACCORDANCE TO ORDNANCE DEPT. GAGES.
K-ECCENTRICITY BETWEEN THREADS AND 1.72 DIA. TO BE IN ACCORDANCE TO ORDNANCE DEPT. GAGES.

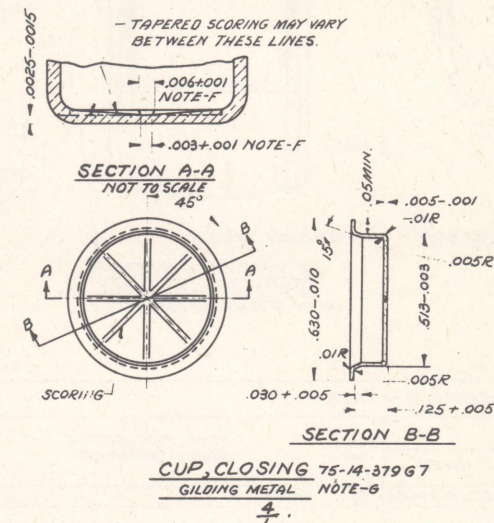
L-ALTERNATIVE: 1.00-.002 INCH SQUARE.
M-STAMP OR PRINT DISK WITH BLACK PRINTERS INK IN LETTERS AND FIGURES 1/16 MIN HEIGHT AS FOLLOWS:
1-NEW LOADING: LOADED SHELL LOT NUMBER, MONTH AND YEAR COMPLETED.
2-SHELL, REWORKED LOTS: LOADED SHELL LOT NUMBER, ON REVERSE SIDE, REWORKED, PLANT INITIALS, MONTH AND YEAR COMPLETED.
3-SHELL, REWORKED AND GROUPED INTO HYBRID LOTS: THE NEW LOT NUMBER, FORMERLY, ORIGINAL LOT NUMBER (IF KNOWN), ON REVERSE SIDE, REWORKED, PLANT INITIALS, MONTH AND YEAR COMPLETED.



(a) MATERIAL: PAPER, MAP, LITHOGRAPH-FINISH, 50 PERCENT RAG, WEIGHT 32 LBS.
(b) DIMENSION CONTROLS TOOL MANUFACTURE.

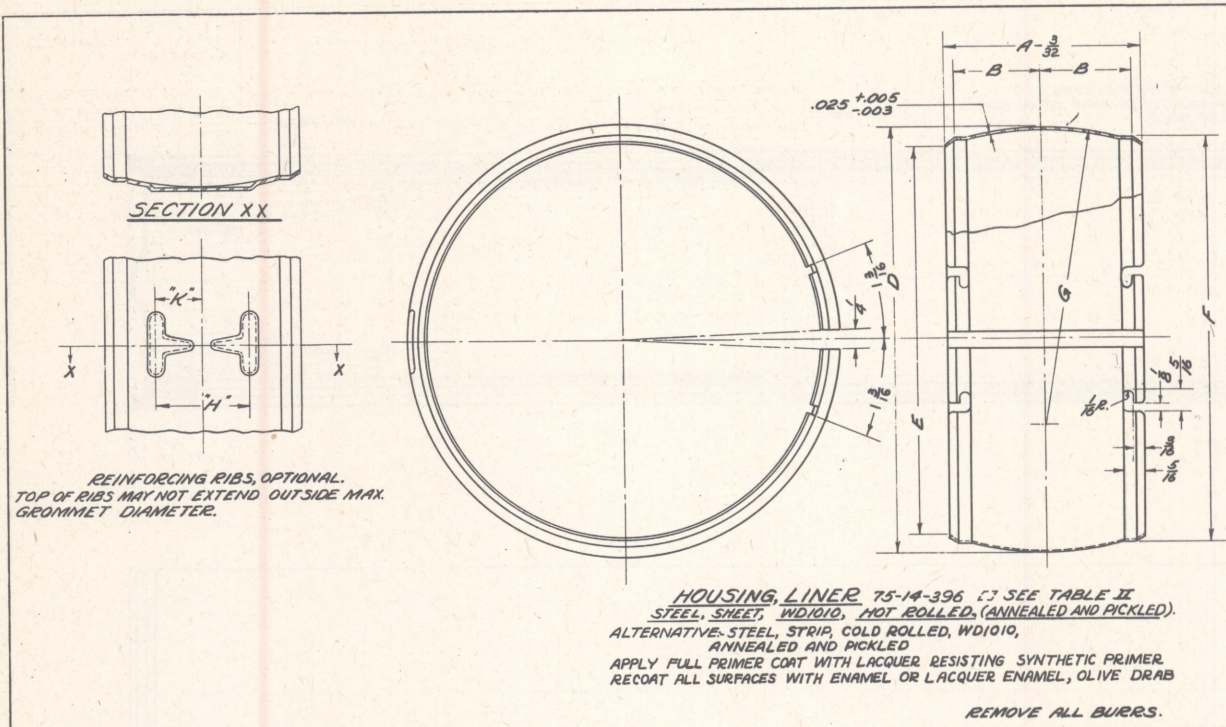
LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPECIFICATIONS FOR	50-0-1	DRG. 75-14-379
2	ALUMINUM-BASE-ALLOY; DIE CASTING	88-A-591	DRG. 75-14-379
3	ALUMINUM-BASE-ALLOY; PERMANENT-MOLD-CASTINGS	88-A-596	DRG. 75-14-379
4	ALUMINUM; PLATES AND SHEETS	88-A-561	DRG. 75-14-379
5	GILDING METAL (95/5 BRASS); SHEETS AND STRIPS	JAN-6-439	DRG. 75-14-379
6	METALS, GENERAL SPECIFICATIONS FOR INSPECTION OF	88-M-151	JAN-6-439
7	PAPER, MAP, LITHOGRAPH-FINISH, 50% RAG	19-4B	DRG. 75-14-379
8	PAPER; BOND, WHITE AND COLORED	UU-P-121	DRG. 75-14-379
9	FEDERAL GENERAL SPECIFICATIONS FOR PAPER	UU-P-31	DRG. 75-14-379
10			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



SUPERSEDES 75-14-379 WITH CHANGE AUGUST 15, 1945

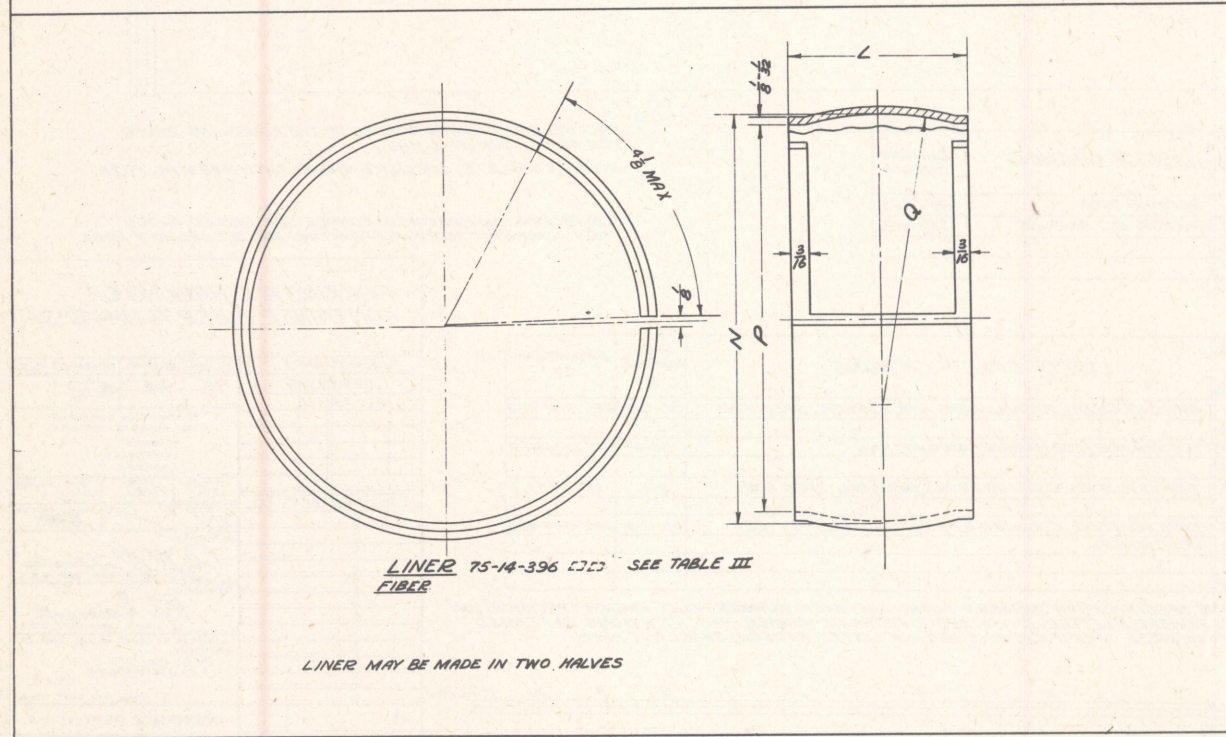
LOADING ACCESSORIES FOR PROJECTILES DETAILS			
REVISIONS	CLASS	DIVISION	DRAWING FILE
7 8-15-45	75	14	379
8 10-1-45			
9 8-11-49			
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±			
DRG. PERTAINS TO			
CHECKER	TRACER	C.W.F.	ORD. ENGINEER
SUBMITTED			
EXAMINED			
C.S. Reed			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
C.S. Reed			
COL., ORD. DEPT. U.S.A.			
ORDNANCE DEPT. U.S.A.			



HOUSING, TABLE II

LINE NO.	PIECE-MARK	DIMENSIONS								APPROX. WT. LBS.	REMARKS
		A	B	D	E	F	G	H	K		
1	75-14-396A3	2 1/8	1 1/2	5 1/2	4 1/2	4 1/2	3 1/8	1	1/2	.30	
2											
3											
4											
5	75-14-396B3	3 1/2	1 1/2	6 1/2	6 1/2	6 1/2	5 1/8	1 1/2	1 1/2	.53	
6	75-14-396C3	2 1/2	1 1/2	6 1/2	6 1/2	6 1/2	3 1/2	1 1/2	1 1/2	.44	
7											
8											
9	75-14-396D3	3 1/2	1 1/2	6 1/2	6 1/2	6 1/2	5 3/8	1 1/2	1 1/2	.46	
10	75-14-396E3	1 1/2	1 1/2	6 1/2	6 1/2	6 1/2	1 1/2	1 1/2	1 1/2	.25	
11	75-14-396F3	2 1/2	1 1/2	6 1/2	6 1/2	6 1/2	1 1/2	1 1/2	1 1/2	.33	
12											
13											
14											
15											
16											
17	75-14-396G3	4 1/2	1 1/2	8 1/2	8 1/2	8 1/2	5 1/2	2 1/2	1 1/2	.86	
18	75-14-396H3	3 1/2	1 1/2	8 1/2	8 1/2	8 1/2	4 1/2	2 1/2	1 1/2	.70	
19	75-14-396K3	3 1/2	1 1/2	8 1/2	8 1/2	8 1/2	3 1/2	1 1/2	1 1/2	.60	
20	75-14-396L3	3 1/2	1 1/2	10 1/2	9 1/2	9 1/2	3 1/2	1 1/2	1 1/2	1.06	(a)
21	75-14-396M3	3 1/2	1 1/2	10 1/2	9 1/2	9 1/2	2 1/2	2 1/2	1 1/2	1.29	(a)
22											
23											
24											
25											

(a) HOUSING TO BE MADE FROM .0359 (NO. 20 U.S. GAUGE) STEEL



LINER, TABLE III

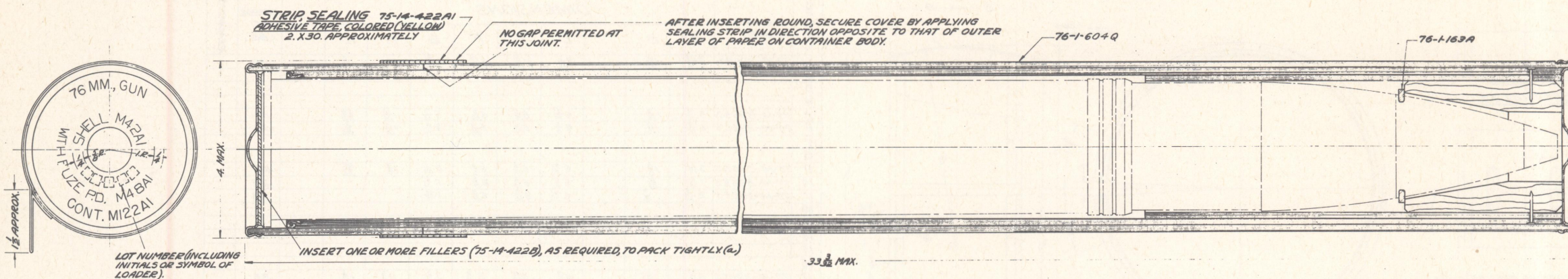
LINE NO.	PIECE-MARK	DIMENSIONS					APPROX. WT. LBS.	REMARKS
		L	N	P	Q			
1	75-14-396AAS	2 1/2	4 1/2	4.49	3 1/2		.15	
2								
3								
4								
5	75-14-396BBS	3 1/2	6 1/2	5.98	5 1/2		.27	
6	75-14-396CCS	2 1/2	6 1/2	5.97	3 1/2		.23	
7								
8								
9	75-14-396DDS	2 1/2	6 1/2	6.07	4 1/2		.23	
10	75-14-396EES	1 1/2	6 1/2	6.07	1		.11	
11	75-14-396FFS	1 1/2	6 1/2	6.07	1 1/2		.16	
12								
13								
14								
15								
16								
17	75-14-396GGS	3 1/2	8 1/2	7.99	5 1/2		.45	
18	75-14-396HHS	3 1/2	8 1/2	7.94	4 1/2		.37	
19	75-14-396KKS	2 1/2	8 1/2	7.98	3 1/2		.31	
20	75-14-396LLS	2 1/2	9 1/2	9.39	3 1/2		.36	
21	75-14-396MMS	3 1/2	10 1/2	9.39	2 1/2		.45	
22								
23								
24								
25								
26								

WITH NEW TRACING 75-14-371-
SUPERSEDES OLD TRACING 75-14-371
UNDER REVISION DATE 1-23-43.

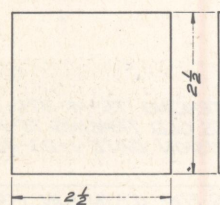
**GROMMETS, FOR 4.5 IN., 6 IN., 155 MM.
8 IN. AND 240 MM. PROJECTILES.
DETAILS.**

JANUARY 23, 1943		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	396	
1	6-1-43				
2	8-31-43				
3	4-24-44				
4	8-15-45				
5	4-29-48				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL ±					
FRACTIONAL ±					
ANGULAR ±					
DRG. PERTAINS TO		DESIGNER	CHECKER	IN-CHARGE	ENGINEER
75-14-371		R.F.W.	J.J.G.	R.H.	
SUBMITTED:		Amgalla			
EXAMINED:		D.K. Winkler			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:		L.T. COL. ORD. DEPT. U.S.A.			
		COL. ORD. DEPT. U.S.A.			
		ORDNANCE DEPT. U.S.A.			

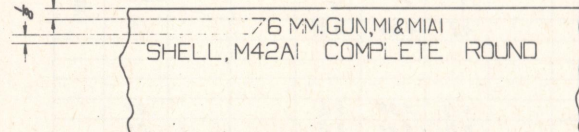
SCALE 1/4"



MARK BOTH ENDS AS SHOWN, USING WHITE MARKING INK.



FILLER 75-14-422B
NO. 35 CHIPBOARD, PASTED OR PLAIN,
.06 THICK, COMMERCIAL.



MARKING OF SEALING STRIP
MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/4 HIGH, USING
BLACK MARKING INK EITHER BEFORE OR AFTER APPLICATION
OF THE SEALING STRIP MARKING TO BE VISIBLE WHEN STRIP
IS APPLIED TO FIBER CONTAINER.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE- MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	PACKING STOP	1	76-1-163A					.15	
2	STRIP, SEALING	1	75-14-422A	STRIP	ADHESIVE TAPE, YELLOW		50-11-81	.03	
3	FILLER	(a)	75-14-422B	SHEET	CHIPBOARD, PASTED OR PLAIN		COMMERCIAL	.02	
4					INK, MARKING, BLACK		36-2		
5					INK, MARKING, WHITE		36-2		

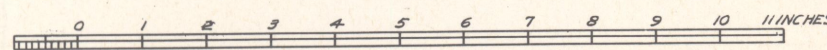
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	PACKING STOP	76-1-163
2	PACKING AND MARKING	75-14-422
3		
4		

PACKING AND MARKING APPLIES TO THE FOLLOWING ROUND
FOR 76 MM. GUN M1 & M1A1
ROUND, COMPLETE, SHELL, H.E., M42A1, WITH M48A1 RD. FUZE.

FOR PACKING AND MARKING OF BUNDLE SEE DRG. 20-4-349
FOR PACKING AND MARKING OF PACKING BOX SEE DRG. 20-4-388X

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-422
2			
3	INK, MARKING (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-422
4			
5	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	50-11-81
6			
7	TAPE, ADHESIVE, COLORED & WHITE (FOR SEALING FIBER	50-11-81	DRG. 75-14-422
8	CONTAINERS		
9			
10			

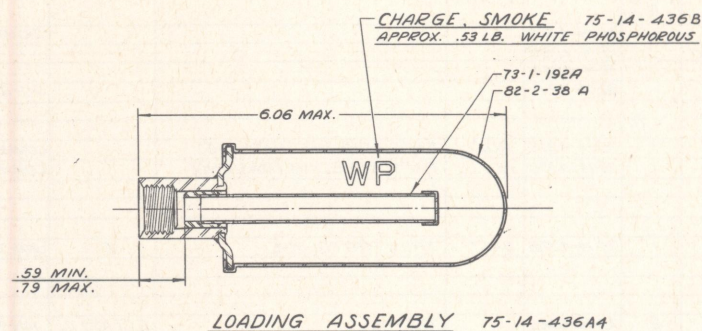
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TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



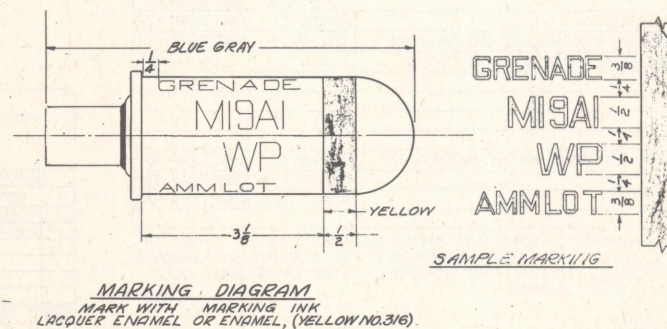
PACKING AND MARKING OF CONTAINER, FIBER, 76 MM, M122A1

JULY 10, 1943		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	422	
1 8-15-45					
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL ±					
FRACTIONAL ±					
ANGULAR ±					
DRG. PERTAINS TO		DFTSMAN	TRACER	ENGINEER	
		J.B.	N.R.L.	K.L.	
		CHECKER	SENIOR ENGINEER		
		M.J.X.	E.D.M.		
SUBMITTED:					
C.M. Gallagher					
CAPT. MAJOR, ORD. DEPT. U.S.A.					
EXAMINED:					
R.L. Greenwald					
CAPT. ORD. DEPT. U.S.A.					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:					
S.P. Strubling					
COL., ORD. DEPT. U.S.A.					
ORDNANCE DEPT. U.S.A.					

SUPERSEDED BY 76-1-1127 WITH CHANGE SEPTEMBER 12, 1949.



- NOTES:-
A- LUTE BURSTER CASING BUSHING WITH ENGINE OIL BEFORE ASSEMBLY
D- ALLOWABLE ECCENTRICITY BETWEEN BODY ADAPTER THREADS (.75-16NF-1) AND INSIDE DIAMETER OF BURSTER CASING (.367) .025
E- COAT ENTIRE EXTERIOR SURFACE WITH BLUE GRAY LACQUER ENAMEL OR ENAMEL.



LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECE MARK	MATERIAL				APPROX. UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF FIN. STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPECIFICATION NUMBER			
1	LOADING ASSEMBLY		75-14-436A					1.04		(c)
2	METAL PARTS ASSEMBLY	1	82-2-38A							
3	BURSTER CASING ASSEMBLY	1	73-1-192A							
4										
5	CHARGE, SMOKE	1	75-14-436B		WHITE PHOSPHORUS		4-503-305	.53		(c)
6										
7										
8					LACQUER ENAMEL, BLUE GRAY	I	3-162			(a)
9					INK, MARKING, YELLOW		36-2			(b) (d)
10					OIL, ENGINE	SAE 10	2-104			
11										
12										

- (a) ALTERNATIVE MATERIAL - BLUE GRAY ENAMEL, GRADE I, SPEC. 3-67
(b) ALTERNATIVE MATERIAL - YELLOW ENAMEL, NO. 316, GRADE I, SPEC. 3-67 OR YELLOW LACQUER ENAMEL, NO. 316, GRADE I, SPEC. 3-162
(c) SPECIFICATION FURNISHED BY CHEMICAL WARFARE SERVICE.
(d) COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-436
2	INK, MARKING	36-2	DRG. 75-14-436
3	LACQUER ENAMEL LUSTRELESS	3-162	DRG. 75-14-436
4	OIL, ENGINE	2-104	DRG. 75-14-436
5	PAINTS AND RELATED MATERIAL, GENERAL SPEC. FOR	3-1	3-162
6	PHOSPHORUS, WHITE	4-503-305	DRG. 75-14-436
7	ENAMEL, LUSTRELESS, QUICK DRYING	3-67	DRG. 75-14-436
8			
9			
10			

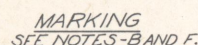
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CLASSIFICATION CHANGED TO UNCLASSIFIED
BY AUTHORITY OF OCM NO. 23532
BY *W. Thompson*

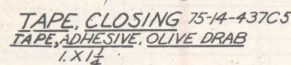
GRENADÉ, RIFLE, SMOKE WP, M19A1
LOADING ASSEMBLY
AND MARKING DIAGRAM.

FEBRUARY 5, 1944		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	436	
1	APRIL 10/44				
2	10-25-44				
3	4-6-45				
4	8-15-45				
5	7-8-48				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL ±					
FRACTIONAL ±					
ANGULAR ±					
DRG. PERTAINS TO					
82-0-109					
SUBMITTED:					
H. J. Danner					
CHIEF ENGINEER ORD. DEPT. U.S.A.					
EXAMINED:					
W. K. Holler					
COL., ORD. DEPT. U.S.A.					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:					
J. A. Luke					
COL., ORD. DEPT. U.S.A.					
D		ORDNANCE DEPT., U.S.A.			

OBSOLESCE
SCALE: 4



TAPE, SIDE BOOSTER 75-14-437D3
ADHESIVE TAPE (MASKING) APPROX $\frac{3}{4}$ WIDE
BY $4\frac{3}{8}$ LONG.



NOTES:
A - AFTER LOADING, COAT EXTERIOR SURFACES WITH OLIVE DRAB LUSTRELESS LACQUER ENAMEL, GRADE II, OR OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, WHERE NECESSARY.
B - MARK WITH BLACK STENCIL INK.
C - INSERT LOT NUMBER.
D - INSERT DATE (MONTH AND YEAR) LOADED.
E - IRREGULAR SURFACE PERMITTED.
F - MARKING TO BE LOCATED IN DEPRESSIONS ON BOTTOM OF MINE.

SUPERSEDES 75-14-437 WITHOUT CHANGE 6-10-49

(b) ALTERNATIVE MATERIAL :- OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, SPEC JAN-E-74

(e) ALTERNATIVE MATERIAL :- BARIUM STEARATE, SPEC. JAN-8-36

THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

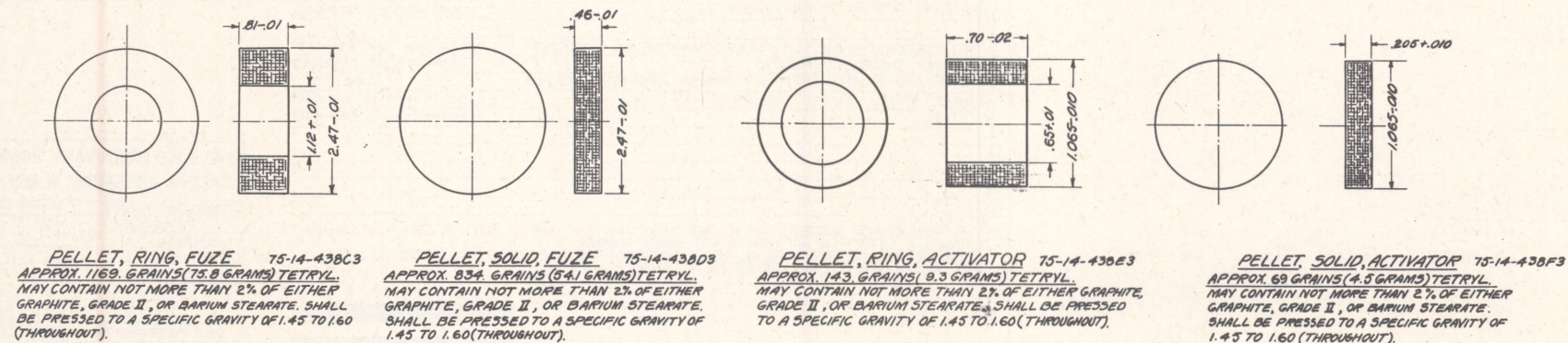
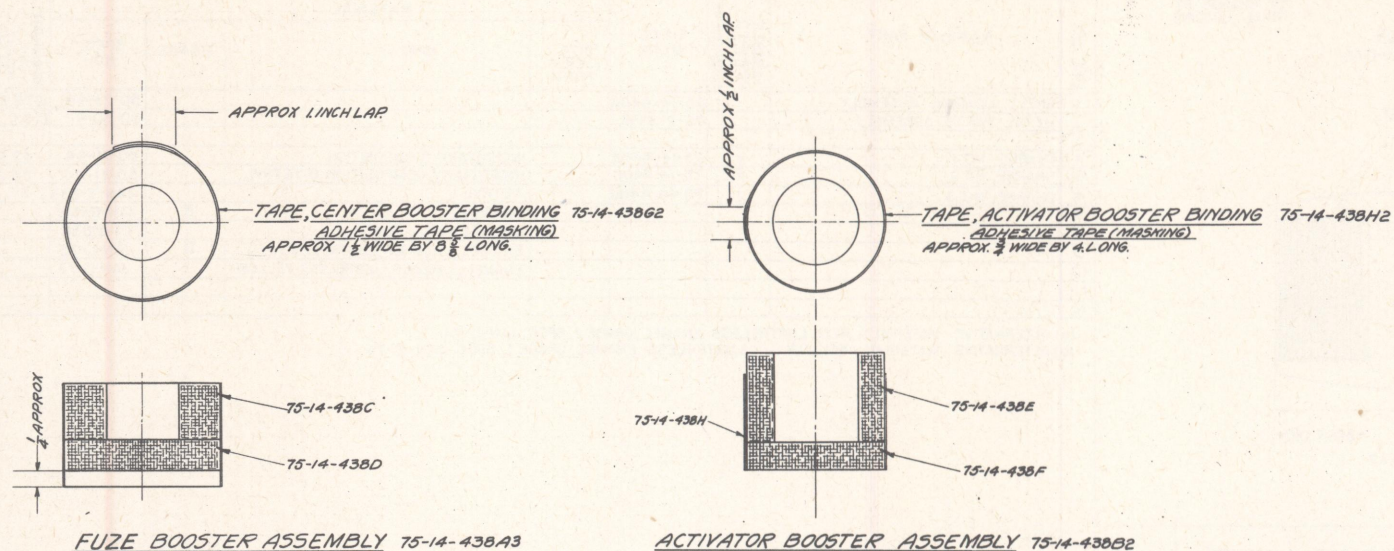
TAPE, BOTTOM BOOSTER 75-14-437E3
ADHESIVE TAPE (MASKING) APPROX $\frac{3}{4}$ WIDE
BY $5\frac{1}{2}$ LONG.

NOTICE: THIS DRAWING SHALL NOT BE
USED NOR REPRODUCED EITHER
WHOLLY OR IN PART EXCEPT WHEN
AUTHORIZED IN CONNECTION WITH
UNITED STATES GOVERNMENT
PROCUREMENT.

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	75-14-43
2	METAL PARTS ASSEMBLY	82-15-22
3	DETAILS	75-14-43
4	CRATE, METAL, M153A1	76-17-21
5	PACKING & MARKING OF CRATE	20-4-44

MINE, AT, HE, HEAVY, M6A1
LOADING ASSEMBLY.

MARCH 9, 1944				CLASS		DIVISION		DRAWING		FIL.	
REVISONS				75		14		437			
4	4-19-48			TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±							
5	6-10-49										
DRG. PERTAINS TO				D'SMAN		TRACER		SCALE		ENGINE	
				ALM		F.C.B.					
				CHECKER							
				R.C.V.		Sgt. 6.0		C.B.K.		ENGINE	
				SUBMITTED:							
				<i>W.H. Lewis</i> ORD. ENG. ORD. DEPT. U. S. A.							
				EXAMINED: <i>C.R. Dutton</i> COL. ORD. DEPT. U. S. A.							
				APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>Johnston</i> 6 COL. ORD. DEPT. U. S. A.							
82-0-129											
D				ORDNANCE DEPT., U. S. A.							



SCALE, INCHES, 3/4, 1/2

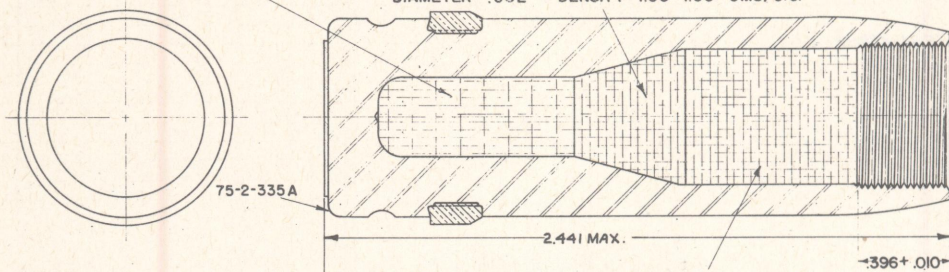
SUPERSEDES OLD TRACING 75-14-438
UNDER REVISION DATE OF NOV. 16, 1944

MINE, AT, HE, HEAVY, M6A1. LOADING DETAILS.			
REVISIONS	CLASS	DIVISION	DRAWING
1 8-24-44	75	14	438
2 11-16-44			
3 4-19-48			
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±			
DRG. PERTAINS TO			
SUBMITTED BY C. M. Gallagher LT. COL., ORD. DEPT. U.S.A.			
EXAMINED BY C. S. Reed LT. COL., ORD. DEPT. U.S.A.			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE C. S. Reed COL., ORD. DEPT. U.S.A.			
75-14-437			
D			
ORDNANCE DEPT., U. S. A.			

CHARGE, NO. 1 75-14-440B2
APPROX. 27.5 GRAINS (1.78 GRAMS)
INCENDIARY COMPOSITION
PRESS AT 40,000 TO 50,000 LBS. PER SQ. IN.
ADVISORY-- TWO SOLID PELLETS;
DIAMETER=.284
DENSITY= MINIMUM FOR HANDLING.

CHARGE, NO. 2 75-14-440C4
APPROX. 9.5 GRAINS (.62 GRAMS) INCENDIARY COMPOSITION
AND 25.75 GRAINS (1.67 GRAMS) TETRYL. TETRYL MAY CONTAIN
NOT MORE THAN 2% GRAPHITE, GRADE "II". PRESS AT
40,000 TO 50,000 LBS. PER SQ. IN.
ADVISORY--INCENDIARY COMPOSITION--ONE SOLID PELLET.
DIAMETER=.284 DENSITY= MINIMUM FOR HANDLING.
TETRYL--ONE SOLID PELLET
DIAMETER=.502 DENSITY=1.50-1.60 GMS/C.C.

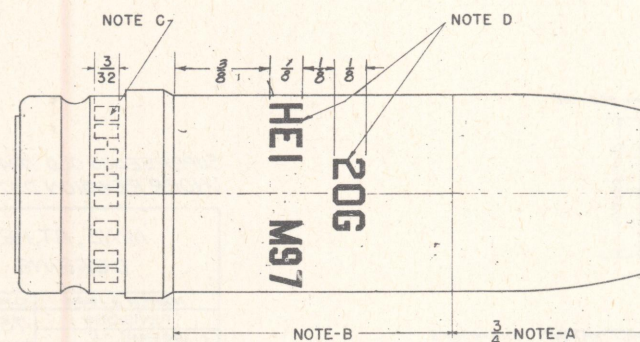
(a) ESTABLISH WEIGHT
OF CHARGE BY
TRIAL LOADING.



SHELL LOADING ASSEMBLY 75-14-440 A3
MEAN VOLUME OF CHARGE CAVITY=.273 CU. IN.

CHARGE NO. 3 75-14-440D4
APPROX. 57 GRAINS (3.69 GRAMS) TETRYL (a)
MAY CONTAIN NOT MORE THAN 2% GRAPHITE,
GRADE II. PRESS AT 10,000 TO 20,000 LBS.
PER SQ. IN.
ADVISORY--ONE SOLID PELLET.
DIAMETER=.502
DENSITY=1.50-1.60 GMS/C.C.

APPROXIMATE WEIGHTS	GRAINS
SHELL WEIGHT, EMPTY	1557.
CHARGE, NO. 1	27.5
CHARGE, NO. 2	35.25
CHARGE, NO. 3	57.
TOTAL	1676.75



MARKING DIAGRAM

MARKING INSTRUCTIONS

NOTES--A-RETOUCH EXTERIOR SURFACE EXCEPT ROTATING BAND WHERE DAMAGED WITH
YELLOW LACQUER ENAMEL, GRADE II, OR YELLOW LUSTRELESS ENAMEL, GRADE II
B-COAT SURFACE OF SHELL WITH RED LUSTRELESS LACQUER ENAMEL, GRADE I, OR
RED LUSTRELESS ENAMEL, GRADE I
C-INSERT LOT NUMBER, MONTH & YEAR OF LOADING. SAMPLE MARKING: 00-0000 00
D-MARK WITH BLACK STENCIL INK. LOT NUMBER MONTH YEAR OF LOADING

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQUIRED PER COMPONENT	PIECE- MARK	MATERIAL				APPROXIMATE WEIGHT (GRAINS)	APPROX. GROSS WT. OF RAW MATERIAL ASSEMBLED	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NO.			
1	SHELL LOADING ASSEMBLY		75-14-440A				50-21-44	1676.75		
2	METAL PARTS ASSEMBLY		75-2-335A				50-30-4	1557.		
3										
4	CHARGE, NO. 1	1	75-14-440B		INCENDIARY COMPOSITION		50-21-44	27.5		
5	CHARGE, NO. 2	1	75-14-440C		INCENDIARY COMPOSITION & TETRYL		50-21-44	35.25		
6	CHARGE, NO. 3	1	75-14-440D		TETRYL		JAN-T-339	57.		
7					GRAPHITE	II	JAN-G-155			
8					INK, STENCIL, BLACK		TT-I-558			
9					ENAMEL, LACQUER, LUSTRELESS, RED	II	JAN-L-73			(a)
10					ENAMEL, LACQUER, LUSTRELESS, YELLOW	I	JAN-L-73			(b)
11										
12										

(a) ALTERNATIVE MATERIAL-- RED LUSTRELESS ENAMEL, GRADE I, SPEC. JAN-E-74
(b) ALTERNATIVE MATERIAL-- YELLOW LUSTRELESS ENAMEL, GRADE I, SPEC. JAN-E-74

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-440
2	CARTRIDGE, HEI, M97, ETC. FOR 20-MM GUNS, L.A.M. & P.	50-21-44	DRG. 75-14-440
3	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74	DRG. 75-14-440
4	GRAPHITE (FOR USE IN AMMUNITION)	JAN-G-155	DRG. 75-14-440
5			
6	INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES	TT-I-558	DRG. 75-14-440
7	LACQUER, ENAMEL, LUSTRELESS	JAN-L-73	DRG. 75-14-440
8	PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR	3-1	JAN-L-73
9	SHELL, STEEL, MANUFACTURED FROM BAR STOCK	50-30-4	DRG. 75-14-440
10	TETRYL	JAN-T-339	DRG. 75-14-440
11			
12			
13			
14			
15			

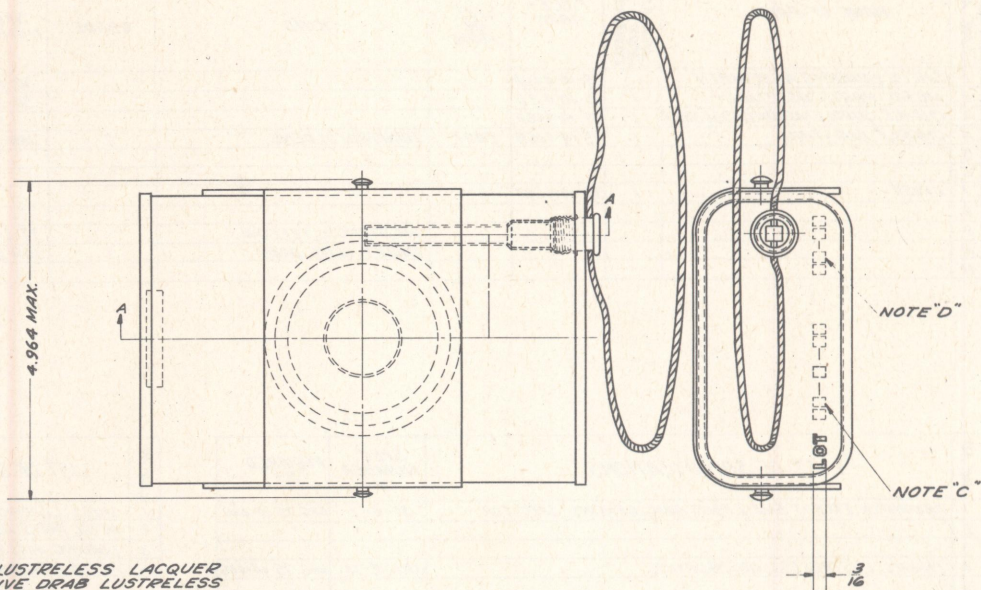
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS
REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL
NOT APPLY, EXCEPT THOSE REFERRED TO IN 50-21-44

CLASSIFICATION CHANGED TO
UNCLASSIFIED BY AUTHORITY OF
O.C.M. 26550.
BY LT. COL. [Signature] FEB. 1, 1945

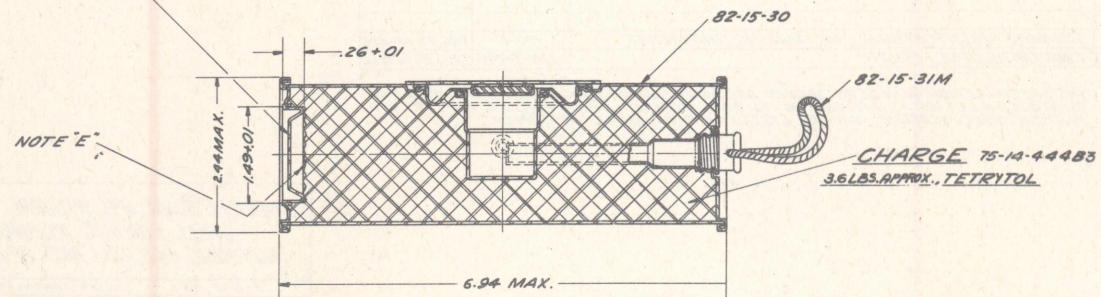
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-440
2	METAL PARTS ASSEMBLY	75-2-335
3		

SHELL, HE, INCENDIARY, 20MM, M97,
LOADING ASSEMBLY & MARKING DIAGRAM.

FEBRUARY 17, 1944		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	440	
1	5-15-44				
2	2-1-45				
3	8-15-45				
4	4-21-49				
SYMBOL					
DRG. PERTAINS TO					
SUBMITTED:					
EXAMINED:					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:					
ORDNANCE DEPT., U. S. A.					



COAT WITH OLIVE DRAB LUSTRELESS LACQUER ENAMEL, GRADE II, OR OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, AFTER LOADING.



LOADING ASSEMBLY 75-14-444A3

NOTES:-
A-AFTER LOADING, TOUCH UP SURFACES WITH OLIVE DRAB LUSTRELESS LACQUER ENAMEL, GRADE II, OR OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, WHERE NECESSARY.
B-MARK WITH BLACK MARKING INK OR BLACK STENCIL PAINT, TYPE I OR II.
C-INSERT LOT NUMBER.
D-INSERT DATE (MONTH AND YEAR) LOADED.
E-IRREGULAR SURFACE PERMITTED.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQ'D PER COMPONENT	PIECE-MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER			
1	LOADING ASSEMBLY		75-14-444A				AXS-1178	4.4		
2	METAL PARTS ASSEMBLY		82-15-30					.8		
3	CARRYING PLUG ASSEMBLY	1	82-15-31M					.02		
4										
5	CHARGE	1	75-14-444B	CAST	TETRYTOL			3.6		(C)
6										
7										
8										
9										
10					INK, MARKING, BLACK		36-2			(b)
11					LACQUER, LUSTRELESS ENAMEL, OLIVE DRAB	II	3-162			(a)
12										
13										
14										
15										

(a) ALTERNATIVE MATERIAL:- OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, SPEC. 3-67.
(b) ALTERNATIVE MATERIAL:- BLACK STENCIL PAINT, TYPE I OR II, SPEC. 3-179.
(c) TETRYTOL TETRYL 65% ± 2% SPEC. 50-13-4.
TRINITROTOLUENE 35% ± 2% SPEC. 50-13-5.

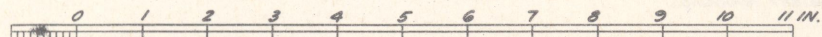
LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	AXS-1178
2	ENAMEL, LUSTRELESS, QUICK-DRYING	3-67	DRG. 75-14-444
3			
4			
5	INK, MARKING, (FOR MARKING AMMUNITION)	36-2	DRG. 75-14-444
6	MINE, AT, HE, LIGHT, M7A1, LOADING, ASSEMBLING, & PACKING	AXS-1178	DRG. 75-14-444
7	LACQUER ENAMEL, LUSTRELESS	3-162	DRG. 75-14-444
8			
9	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	3-162
10			
11	PAINT, STENCIL	3-179	DRG. 75-14-444
12			
13	TETRYL	50-13-4	DRG. 75-14-444
14	TRINITROTOLUENE (TNT)	50-13-5	DRG. 75-14-444
15			

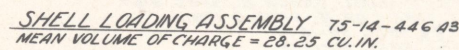
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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	75-14-444
2		
3	METAL PARTS ASSEMBLY	82-15-30
4		
5	BOX, MINE METAL, M156	76-1-625
6	PACKING AND MARKING OF BOX	20-4-435

CLASSIFICATION CHANGED TO UNCLASSIFIED
BY AUTHORITY OF O.C.M. 25174
LT. COL. *W. J. G. G. G.* DATE NOV. 14, 1944

MINE, AT, HE, LIGHT, M7A1 LOADING ASSEMBLY			
FEB. 2, 1944		CLASS	DIVISION
REVISIONS		75	14
1	7-11-44		
2	11-14-44		
3	8-15-45		
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED		DECIMAL ±	
FRACTIONAL ±		ANGULAR ±	
DRG. PERTAINS TO		DESIGNED BY	ENGINEER
CHECKED BY		APPROVED BY	ENGINEER
SUBMITTED BY		EXAMINED BY	
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE	
D		ORDNANCE DEPT., U.S.A.	



[illegible]

MARKING DIAGRAM

- NOTES :-
1. MARK WITH YELLOW STENCIL INK.
 2. RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL OLIVE DRAB, GRADE 2.
- ADVISORY:- AFTER RETOUCHING, BOURRELET DIAMETER SHOULD NOT EXCEED 3.640
3. VOIDS IN SHELL CHARGE WITHIN THIS REGION SHALL NOT CAUSE REJECTION.
 4. CHARGE SUPPLEMENTARY TO BE PLACED IN CAVITY WITH FELT PAD END INSERTED FIRST.
 5. TNT MUST NOT EXTEND BEYOND THE TOP OF THE LINER.
 6. NO CHARGE PERMITTED INSIDE OF LINER.
 7. SAMPLE WEIGHT MARKING.

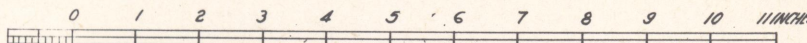
LINE NO	LIST OF SPECIFICATIONS	SPEC. NUMBER X	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-14-446
2			
3			
4	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DRG. 75-14-446
5			
6	INK, STENCIL; OPAQUE FOR MARKING NON-POROUS SURFACES, ETC	TT-I-53B	DRG. 75-14-446
7			
8	LOADING OF H.E. SHELL WITH TNT, 50-50 AMOTOL, ETC.	50-15-5	DRG. 75-14-446
9			
10	PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, ETC	TT-P-141	JHN-E-74
11			
12			
13	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG. 75-14-446
14	TRINITROTOLUENE (TNT)	JAN-T-24B	DRG. 75-14-446

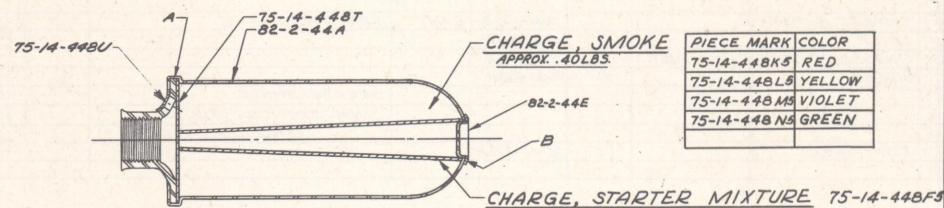
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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-446
2	METAL PARTS ASSEMBLY	75-18-42
3	LOADING ACCESSORIES	75-14-468
4	STD FOR DIMENSIONING & TOLERANCING	30-1-T

SHELL, HE, 90MM., M71, W/SUPPL. CHG.,
SHELL LOADING ASSEMBLY.
MARKING DIAGRAM AND DETAILS.

FEB 14, 1944				CLASS		DIVISION		DRAWING		FILE	
REVISONS				75		14		446			
1	7-26-44			TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED							
2	4-7-45										
3	1-5-50										
				DECIMAL 2							
				FRACTIONAL 2							
				ANGULAR 2							
DRG. PERTAINS TO				D'TS/MAN H.O.		TRACER S.C. GHALLO		R		REVISIONS 225	
				CHECKER J.A.		J.H.W. 60		CHIEF OF DRAFT M.T.			
				SUBMITTED:							
				Milesen George							
				COL., ORD. DEPT. U. S. A.							
				EXAMINED:							
				R.F. Greenawalt							
				CAPT., ORD. DEPT. U. S. A.							
				APPROVED BY ORDER OF THE CHIEF OF ORDNANCE.							
				R. Stridling							
				COL., ORD. DEPT. U. S. A.							
D				ORDNANCE DEPT., U. S. A.							



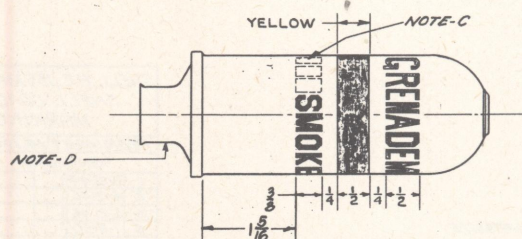


PIECE MARK	COLOR
75-14-448A5	RED
75-14-448B5	YELLOW
75-14-448C5	VIOLET
75-14-448D5	GREEN

NOTES:-
A - APPLY SYNTHETIC RUBBER ADHESIVE, TYPE I AND CRIMP 360.
B - COAT INSIDE OF PLUG WITH ACID-PROOF BLACK PAINT AND ASSEMBLE WHILE WET.

GRENAD, M22A1

COLOR AS APPLICABLE SMOKE

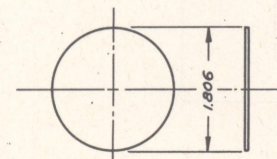


MARKING DIAGRAM
MARK WITH STENCIL INK, LACQUER ENAMEL OR ENAMEL (YELLOW NO. 316)

SAMPLE MARKING

NOTES:-
C - INDICATE ONE OF FOUR COLORS OF SMOKE
1. RED
2. YELLOW
3. VIOLET
4. GREEN

D - COAT EXTERIOR SURFACE OF BODY UNIFORM WITH LACQUER ENAMEL OR ENAMEL OF A COLOR CORRESPONDING TO COLOR OF SMOKE CHARGE.



COVER, STARTER CUP 75-14-448T2 PATCH SEALING 75-14-448U4
WOOL BUNTING (IMPREGNATED) PLASTER, ADHESIVE (WATERPROOF)

SCALE 1

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECE MARK	MATERIAL					APPROX. UNIT WEIGHT (POUNDS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
				SIZE OR FORM	KIND	GRADE	SPECIFICATION NUMBER				
1	LOADING ASSEMBLY		SEE TABLE								(c)
2	METAL PARTS ARRANGEMENT AND DETAILS	1	82-2-44A								
3	CHARGE, SMOKE	1	SEE TABLE								(c)
4											
5	CHARGE, STARTER MIXTURE		75-14-448F								(c)
6											
7	COVER, STARTER CUP	1	75-14-448T	SHEET	WOOL BUNTING (IMPREGNATED)		CCC-B-801				(b) (c)
8	PLUG, BODY	1	82-2-44E								
9											
10					ADHESIVE, RUBBER, SYNTHETIC	TYPE I	62-4				
11	PATCH, SEALING	5	75-14-448U	SHEET	WATERPROOF ADHESIVE PLASTER		197-54-258				(c)
12											
13					INK, STENCIL , YELLOW		TT-I-558				(a)
14					PAINT, ACID-PROOF BLACK		JAN-P-450				

(a) - ALTERNATIVE MATERIAL: (b) YELLOW NO. 316, GRADE I, LACQUER ENAMEL, SPEC JAN-L-73 OR ENAMEL, SPEC JAN-E-74 (d)
(b) ALTERNATIVE MATERIAL: (c) SHEETING, COTTON, UNBLEACHED, WIDE (IMPREGNATED) SPEC, CCC-S-291
(c) SPECIFICATIONS FURNISHED BY CHEMICAL WARFARE SERVICE.
(d) COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1
(e) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-O-1	DRG. 75-14-448
2	ADHESIVE, SYNTHETIC RUBBER (HOT OR COLD BONDING)	62-4	DRG. 75-14-448
3	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74	DRG. 75-14-448
4			
5	INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES, ETC	TT-I-558	DRG. 75-14-448
6			
7	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DRG. 75-14-448
8			
9	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	JAN-L-73
10			
11	PAINT, ACID-PROOF, BLACK, FOR AMMUNITION	JAN-P-450	DRG. 75-14-448
12	SHEETING, COTTON, UNBLEACHED, WIDE	(C) CCC-S-291	DRG. 75-14-448
13	WOOL BUNTING	(C) CCC-B-801	DRG. 75-14-448
14	WATERPROOF ADHESIVE PLASTER	(C) 197-54-258	DRG. 75-14-448

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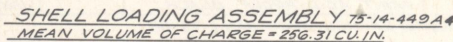
CLASSIFICATION CHANGED TO UNCLASSIFIED BY AUTHORITY OF OCM 24389 BY LT. COL. [Signature] AUG 25 1945

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	75-14-448
2		
3	METAL PARTS	82-2-44
4		

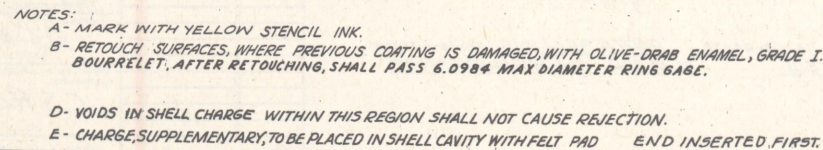
SUPERSEDES OLD TRACING 75-14-448 UNDER REVISION DATE OF NOV 7, 1944.

GRENAD, RIFLE, SMOKE (COLORED), M22A1 LOADING ASSEMBLY AND MARKING DIAGRAM.

FEB. 25, 1944		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	448	
1	4-10-44				
2	8-31-44				
3	11-7-44				
4	8-8-45				
5	6-1-49				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED					
DECIMAL ±					
FRACTIONAL ±					
ANGULAR ±					
DRG. PERTAINS TO					
82-2-44					
SUBMITTED:					
[Signature] [Signature] [Signature]					
EXAMINED:					
[Signature] [Signature] [Signature]					
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:					
C. S. Reed [Signature]					
COL., ORD. DEPT. U.S.A.					
ORDNANCE DEPT., U.S.A.					



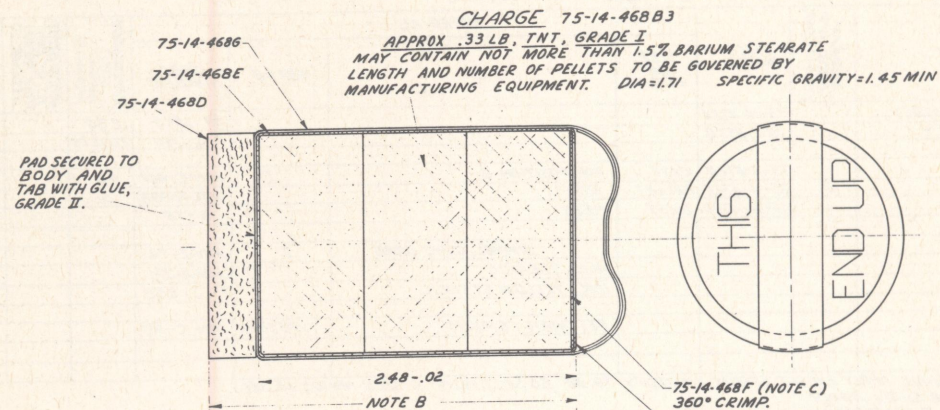
WEIGHT ZONE			
ZONE	LOADED SHELL		MARK
	OVER	UPTO/INCLUDING	
	LBS.	LBS.	
1			
2	20.0	21.3	00
3	21.1	22.4	000
4	22.2	23.5	0000
5	23.3	24.6	00000



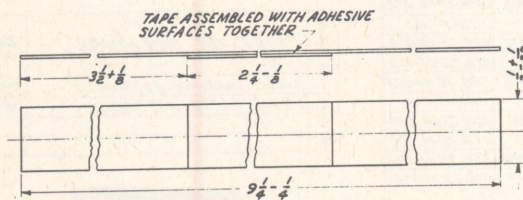
(C) OR 75-14-379 K, OR 75-14-379 L AS APPLICABLE

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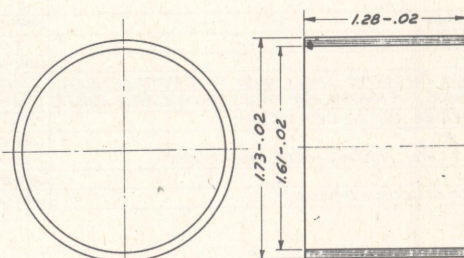
SHELL, H.E., 155 MM, M107, (W/SUPL. CHG.) SHELL LOADING ASSEMBLY MARKING DIAGRAM									
FEBRUARY 16, 1944				CLASS	DIVISION	DRAWING	FIL		
REVISONS				75	14	449			
1	8-22-44			TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ±					
2	4-7-45								
3	5-21-46								
4	1-5-50								
DRG. PERTAINS TO				D'PTMAN WCBS	TRACER WCBS	RD	ENGINEER		
				CHECKER J. A. F.	JDH 60	M.T. ENGINEER			
				SUBMITTED:					
				Lincoln George COL. ORD. DEPT. U.S.					
				EXAMINED:					
				R. F. Gurnea CAPT. ORD. DEPT. U.S.					
				APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:					
				R. F. Whiting COL. ORD. DEPT. U.S.					
D				ORDNANCE DEPT., U.S.A.					



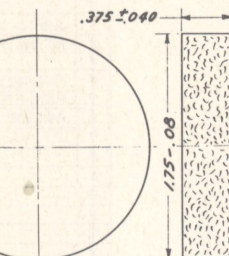
SUPPLEMENTARY CHARGE ASSEMBLY 75-14-468A3
NOTE - A - PELLETS SHALL NOT BE LOOSE IN ASSEMBLED CHARGE
B - OVERALL LENGTH SHALL BE:-
2.865 MIN UNDER A DEAD LOAD OF 3 LB.
2.702 MAX UNDER A DEAD LOAD OF 200 LB.
C - BULGE PERMITTED IN ASSEMBLING CLOSING DISC,
BUT MAX PRESCRIBED OVERALL LENGTH OF CHARGE
ASSEMBLY SHALL NOT BE EXCEEDED.



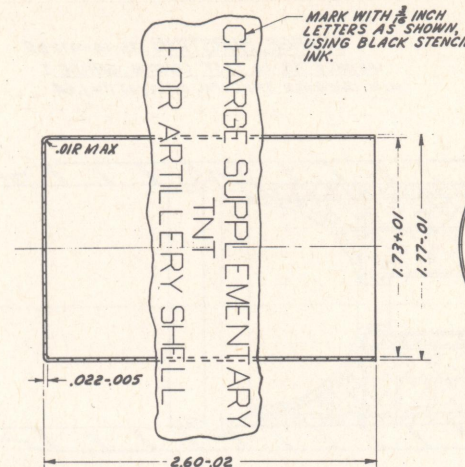
TAB 75-14-468G3
TAPE, ADHESIVE, WHITE, TYPE II, GRADE B



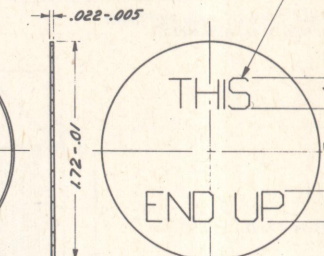
SPACER 75-14-468H3
BOXBOARD,
CONVOLUTE OR SPIRAL WOUND AND SECURED
WITH GLUE, GRADE II, BETWEEN LAYERS.



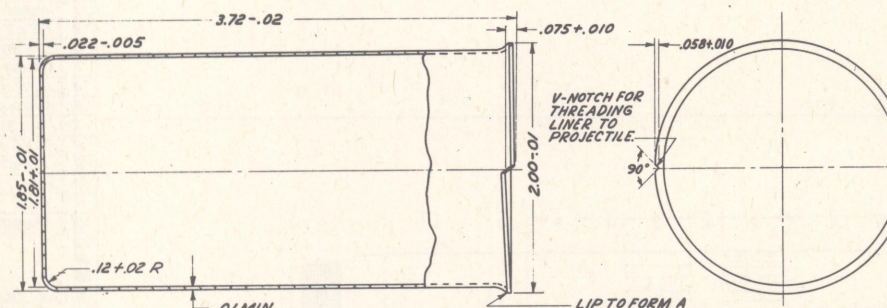
PAD 75-14-468D3
FELT, PRESSED, NO 10
DIAMETER DIMENSION CONTROLS
TOOL MANUFACTURE.



BODY 75-14-468E3
ALUMINUM SHEET, CONDITION A



DISC CLOSING 75-14-468F3
ALUMINUM SHEET, CONDITION H



LINER 75-14-468K3
ALUMINUM SHEET, CONDITION A

NOTICE - THIS DRAWING SHALL NOT
BE USED OR REPRODUCED EITHER
WHOLLY OR IN PART, EXCEPT WHEN
AUTHORIZED IN CONNECTION WITH
UNITED STATES GOVERNMENT
PROCUREMENT.

LOADING ACCESSORIES FOR DEEP CAVITY LOADED SHELL.

HEAT TREATMENT & PROTECTIVE FINISH		CLASS	DIVISION	DRAWING
		75	14	468
DRAWING PERTAINS TO				
FIG. NO.	MAJOR ITEM	DRG. NO.	MAJOR ITEM	
PHYSICAL PROPERTIES				
ORIGINAL DATE OF DRAWING: JULY 5, 1944				
REVISIONS				
NO.	DATE	BY	CHK	APP.
3	1-5-50	ECO	16144	
WEIGHT				
DO NOT APPLY PART NO. (As Specified)				
SCALE				
TOLERANCES ON DIMENSIONS (Unless otherwise Specified)				
SUBMITTALS				
EXAMINED				
APPROVED				
ORDNANCE DEPT				

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE MARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC NUMBER	APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX GROSS WT. OF RAW STOCK BEFORE ASSEMBLY	REMARKS
1	SUPPLEMENTARY CHARGE ASSEMBLY	1	75-14-468A						.365		
2	BODY	1	75-14-468E	SHEET	ALUMINUM		COND A	QQ-A-561	.024		(a)
3	CHARGE	1	75-14-468B	PELLET	TRINITROTOLUENE (TNT)		I	JAN-T-248	.33		
4	DISC CLOSING	1	75-14-468F	SHEET	ALUMINUM		COND H	QQ-A-561	.004		
5	LINER	1	75-14-468K	SHEET	ALUMINUM		COND A	QQ-A-561	.035		
6	PAD	1	75-14-468D	SHEET	FELT, PRESSED		NO. 10	8-15	.006		(b)
7	SPACER	1	75-14-468H	SHEET	BOXBOARD			50-11-79	.01		
8	TAB	1	75-14-468G	STRIP	TAPE, ADHESIVE, WHITE		TYPE II, B	JAN-P-127	.001		
9					BARIIUM STEARATE			JAN-B-366			
10					GLUE		II	3-102			
11					INK, STENCIL, BLACK			TT-I-558			
12					LACQUER, RED		CLASS B	3-158			

(a) ALTERNATIVE MATERIAL: (c) ALUMINUM EXTRUSION, CONDITION F, SPEC QQ-A-411. (c) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

SUPERSEDES 75-14-468 WITH CHANGE JAN 5, 1950.

LINE NO.	LIST OF SPECIFICATIONS	SPEC NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC FOR	50-0-1	DWG-75-14-468
2	ALUMINUM (AL-2) BARS, RODS, SHAPES AND WIRE	QQ-A-411	DWG-75-14-468
3	ALUMINUM (AL-2); PLATE AND SHEET	QQ-A-561	DWG-75-14-468
4	BARIIUM STEARATE	JAN-B-366	DWG-75-14-468
5	BOXBOARD	50-11-79	DWG-75-14-468
6	FELT, PRESSED	8-15	DWG-75-14-468
7	GLUE, FOR USE IN LOADING AMMUNITION	3-102	DWG-75-14-468
8	INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES, ETC	TT-I-558	DWG-75-14-468
9	LACQUER; CELLULOSE NITRATE, AND THINNER (CLEAR AND PIGMENTED)	3-158	DWG-75-14-468
10	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	QQ-A-561
11	PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, ETC	TT-P-141	3-158
12	PAPER; GENERAL SPECIFICATIONS	UU-P-31	50-11-79
13			
14	TAPE, ADHESIVE, PRESSURE-SENSITIVE, WATER-RESISTANT	JAN-P-127	DWG-75-14-468
15	TRINITROTOLUENE (TNT)	JAN-T-248	DWG-75-14-468

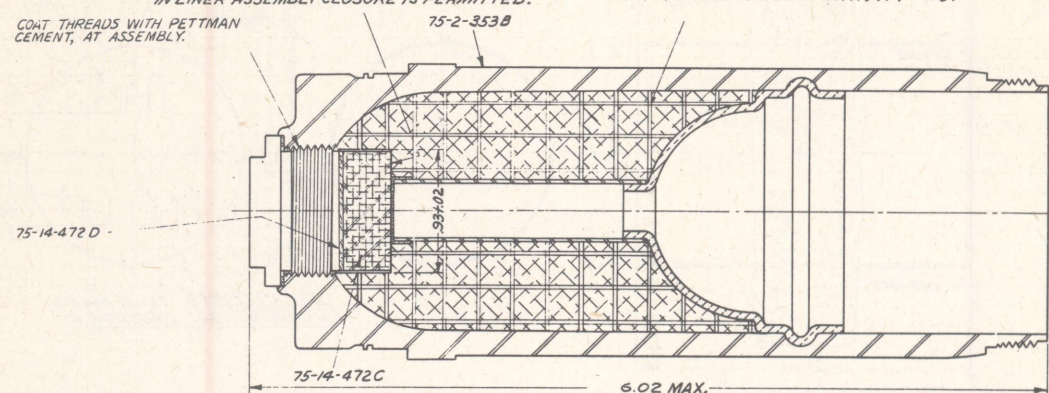
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREIN SHALL NOT APPLY.

REMOVE ALL BURRS.

BOOSTER PELLET CAVITY SHALL BE FLUSH WITH
END OF LINER ASSEMBLY. COMPOSITION B FILM
BETWEEN END OF LINER ASSEMBLY AND BOOSTER
PELLET RESULTING FROM IRREGULARITIES
IN LINER ASSEMBLY CLOSURE IS PERMITTED.

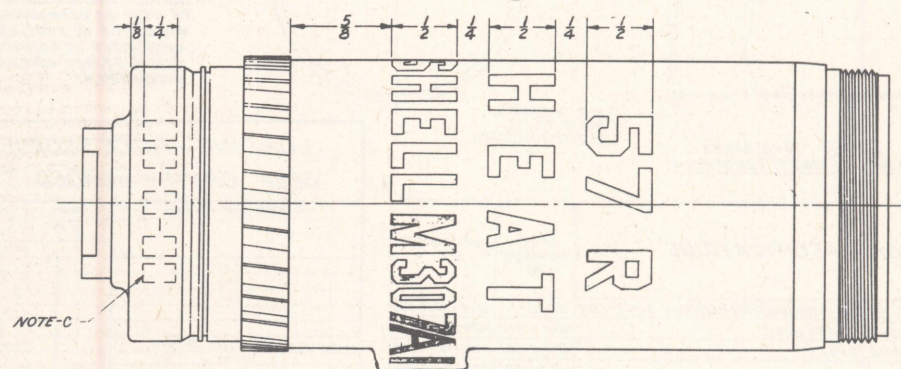
COAT THREADS WITH PETTMAN
CEMENT, AT ASSEMBLY.

CHARGE, BURSTING 75-14-472B5
APPROX .40 LB CAST COMP B, GRADE I
MIN. OVERALL SPECIFIC GRAVITY = 1.64



APPROX. WEIGHTS	
PART	POUNDS
METAL PARTS ASSEMBLY	2.09 ± .05
CHARGE, BURSTING	.40
PELLET, BOOSTER	.01
TOTAL WEIGHT, UNFUZED	2.50

SHELL LOADING ASSEMBLY 75-14-472A5
MEAN VOLUME OF CHARGE = .3 CU. IN.



MARKING DIAGRAM

NOTES:-
A-RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED
WITH OLIVE DRAB ENAMEL, GRADE I.
ADVISORY-AFTER RETOUCHING, BOURRELET DIAMETER SHOULD NOT
EXCEED 2.240
B-MARK WITH YELLOW STENCIL INK.
C-INSERT LOT NUMBER.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE- MARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC. NUMBER	APPROXIMATE WEIGHT (POUNDS)	APPROX GRASS PNT OF RAW STOCK PER NO ASSEMBLES	REMARKS
1	SHELL LOADING ASSEMBLY		75-14-472A					50-15-5	2.50		
2	METAL PARTS ASSEMBLY		75-2-353B					PXS-1130	2.09 ± .05		
3											
4	CHARGE, BURSTING	1	75-14-472B	CAST	COMPOSITION B.		I	JAN-C-401	.40		a
5	PELLET, BOOSTER	1	75-14-472C	PELLET	RDX			JAN-R-398	.01		b
6	SPACER	1	75-14-472D	SHEET	FELT			B-15			
7											
8					ENAMEL, OLIVE DRAB		I	JAN-E-74			
9					ACID, STEARIC			JAN-A-271			c
10					INK, YELLOW STENCIL			TT-I-558			
11											
12					PETTMAN CEMENT		TYPE I OR II	JAN-C-99			
13											
14											

a-SPECIFICATION JAN-C-401 SHALL APPLY EXCEPT EFFLUX VISCOSITY TO BE 50 SECS. PLUS .5 SECS. MINUS 1.5 SECS.

b-SPECIFICATION JAN-R-398 SHALL APPLY
EXCEPT THAT RDX TYPE B, CONFORMING TO THE FOLLOWING GRANULATION REQUIREMENTS SHALL BE USED.
THROUGH U.S. STANDARD SIEVE NUMBER.

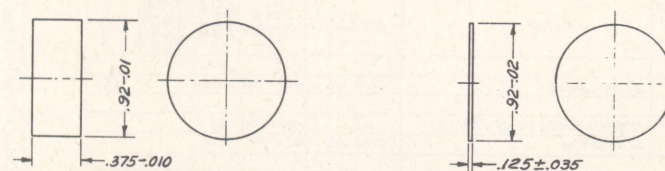
PERCENT	PERCENT
20	98 MINIMUM
35	66 ± 5
50	38 ± 5
100	26 ± 5
200	18 ± 5

c-SPECIFICATION JAN-A-271 SHALL APPLY EXCEPT
THE SOLIDIFICATION POINT SHALL BE
66°C MINIMUM. THE IODINE NUMBER 10 MIN.
AND THE STEARIC ACID SHALL CONFORM TO
THE FOLLOWING GRANULATION REQUIREMENTS:
THROUGH U.S. STANDARD SIEVE NO. 50 100 MINIMUM
100 85 MINIMUM

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-14-472
2	FELT	B-15	DRG. 75-14-472
3	CEMENT, PETTMAN	JAN-C-99	DRG. 75-14-472
4	COLOR CARD SUPPLEMENT	3-1	TFP-141
5	ACID, STEARIC	JAN-A-271	DRG. 75-14-472
6	LOADING OF HIGH EXPLOSIVE SHELL WITH TRINITROTOLUENE, ETC.	50-15-5	DRG. 75-14-472
7	INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES (METAL, GLASS, ETC.)	TT-I-558	DRG. 75-14-472
8	PAINT, VARNISH, LACQUER AND RELATED MATERIALS	TT-P-141	JAN-E-74
9	COMPOSITION B	JAN-C-401	DRG. 75-14-472
10	SHELL, HEAT, 57 MM., M307A1, METAL PARTS FOR	PXS-1130	DRG. 75-14-472
11	RDX	JAN-R-398	DRG. 75-14-472
12	ENAMEL, LUSTRELESS, QUICK DRYING	JAN-E-74	DRG. 75-14-472
13			
14			
15			

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IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO
IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

CLASSIFICATION CHANGED TO
UNCLASSIFIED BY AUTHORITY
OF OCM NO. 29730
BY 721/10/10 DATE SEPT 20, 1968

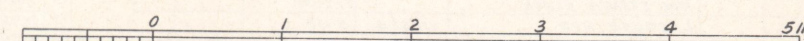


PELLET, BOOSTER 75-14-472C5

106.5-105.5 GRAINS (6.9-7.6 GRAMS), RDX, TYPE B
MAY CONTAIN NOT MORE THAN 2% STEARIC ACID, CLASS A OR B.
ADVISORY: MIN SPECIFIC GRAVITY 1.60

SPACER 75-14-472D3

FELT
DIAMETER DIMENSION
CONTROLS TOOL MANUFACTURE.

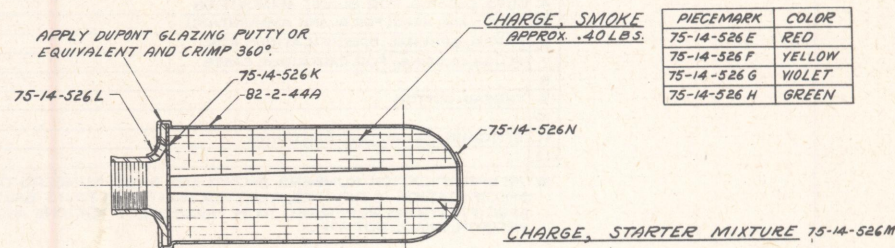


LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	SHELL LOADING ASSEMBLY	75-14-472
2	METAL PARTS ASSEMBLY	75-2-353
3		
4		

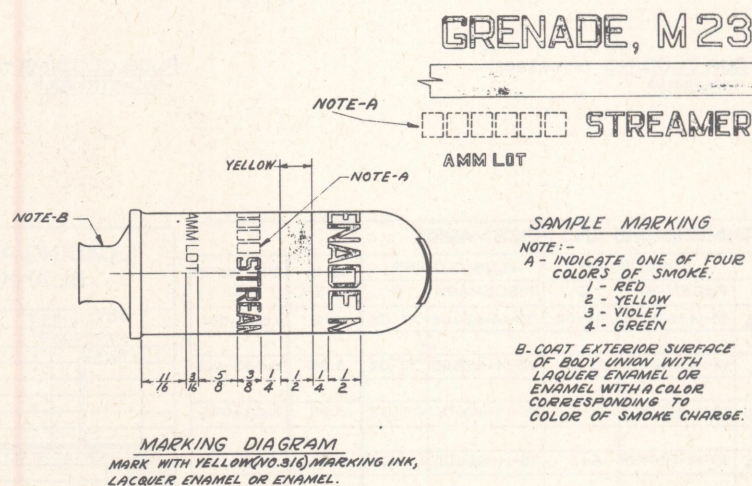
STANDARDIZED BY OCM 27443 APRIL 26, 1946

SHELL, HEAT, 57MM, M307A1
LOADING ASSEMBLY & MARKING DIAGRAM

OCT. 24, 1944			
REVISIONS	CLASS	DIVISION	DRAWING FILE
1 4-15-45	75	14	472
2 6-20-45			
3 9-20-45			
4 2-8-50			
5 8-4-50			
SYMBOL			
DRG. PERTAINS TO			
SUBMITTED			
EXAMINED			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
ORDNANCE DEPT., U. S. A.			



LOADING ASSEMBLY	PIECEMARK	COLOR
	75-14-526A1	RED
	75-14-526B1	YELLOW
	75-14-526C1	VIOLET
	75-14-526D1	GREEN



SAMPLE MARKING

NOTE: -

A - INDICATE ONE OF FOUR COLORS OF SMOKE.

1 - RED

2 - YELLOW

3 - VIOLET

4 - GREEN

B - COAT EXTERIOR SURFACE OF BODY UNION WITH LACQUER ENAMEL OR ENAMEL WITH A COLOR CORRESPONDING TO COLOR OF SMOKE CHARGE.

COVER CHARGE 75-14-526K

WOOL BUNTING (IMPREGNATED)

DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.

SEALING BODY 75-14-526N1

PLASTER ADHESIVE (WATERPROOF)

PATCH SEALING 75-14-526L

PLASTER, ADHESIVE (WATERPROOF)

CLASSIFICATION CHANGED TO UNCLASSIFIED BY AUTHORITY OF OCM 28152, BN

LT. COL. [Signature]

AUGUST 15, 1945

LIST OF PARTS									
LINE NO.	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECEMARK	SIZE OR FORM	MATERIAL	GRADE	SPECIFICATION NUMBER	APPROX. UNIT WEIGHT (POUNDS)	REMARKS
1	LOADING ASSEMBLY		SEE TABLE				AKS-1290	.76	(C)
2	METAL PARTS ARRANGEMENT AND DETAILS	1	82-2-44A					.36	(C)
3	CHARGE, SMOKE	1	SEE TABLE					.40	(C)
4									
5	CHARGE, STARTER MIXTURE		75-14-526M						(C)
6									
7	COVER, CHARGE	1	75-14-526K	SHEET	WOOL BUNTING (IMPREGNATED)		CCC-B-801		(b)(C)
8									
9									
10	PATCH SEALING	5	75-14-526L	SHEET	WATERPROOF ADHESIVE PLASTER		197-57-258		(C)
11	SEALING, BODY	1	75-14-526N	SHEET	WATERPROOF ADHESIVE PLASTER		197-54-258		(C)
12					PUTTY, GLAZING	DUPONT OR EQUIV.	COMMERCIAL		(a)(d)
13					INK, MARKING, YELLOW		36-2		(e)(f)
14					LACQUER ENAMEL	III	3-162		

- (a) - ALTERNATIVE: ENAMEL, YELLOW NO. 316, GRADE I, SPEC. 3-162 OR LACQUER ENAMEL, YELLOW NO. 316, GRADE I, SPEC. 3-67.
- (b) - ALTERNATIVE: SHEETING, COTTON, UNBLEACHED, WIDE (IMPREGNATED) SPEC. CCC-S-291 (C).
- (c) - SPECIFICATIONS FURNISHED BY CHEMICAL WARFARE SERVICE.
- (d) - COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1.
- (e) - ALTERNATIVE: ENAMEL, GRADE III, SPEC. 3-67.
- (f) - COLOR AS APPLICABLE (SEE NOTE-B).

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR	50-0-1	DRG. 75-14-526
2			
3	ENAMEL, LUSTRELESS, QUICK DRYING	3-67	DRG. 75-14-526
4			
5	INK, MARKING	36-2	DRG. 75-14-526
6			
7	LACQUER ENAMEL, LUSTRELESS	3-162	DRG. 75-14-526
8			
9	PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR	3-1	3-162
10			
11			
12	SHEETING, COTTON, UNBLEACHED, WIDE	CCC-S-291	DRG. 75-14-526
13	WOOL BUNTING	CCC-B-801	DRG. 75-14-526
14	WATERPROOF ADHESIVE PLASTER	(C) 197-54-258	DRG. 75-14-526

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LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	LOADING ASSEMBLY	75-14-526
2	METAL PARTS	82-2-44
3		
4		

STANDARDIZED BY OCM 28152 JUNE 28, 1945

GRENAD, RIFLE, SMOKE, COLORED, STREAMER, M23

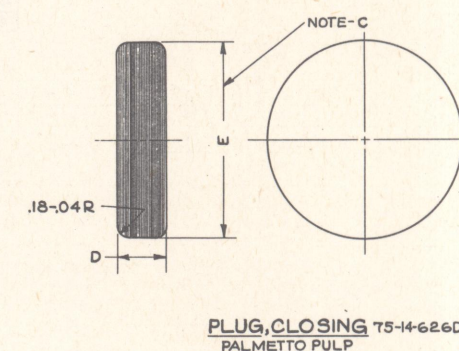
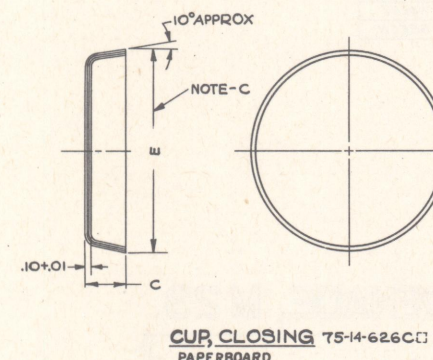
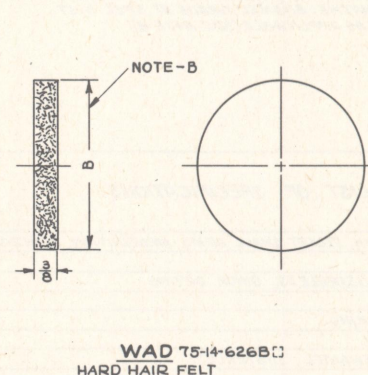
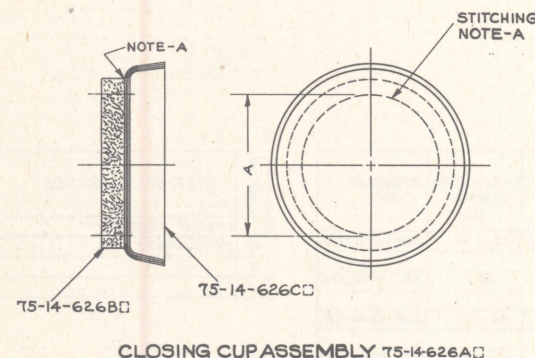
LOADING ASSEMBLY & MARKING DIAGRAM

APRIL 27, 1945	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	14	526	
1 8-15-45				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED				
DECIMAL ±				
FRACTIONAL ±				
ANGULAR ±				
DRG. PERTAINS TO	C.W.F.	C.W.F.	ENGINEER	
82-0-139	CHECKED	2-4-4	APPROVED	
SUBMITTED				
EXAMINED				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
C.S. Reed				
COL. ORD. DEPT. U.S.A.				
D	ORDNANCE DEPT. U.S.A.			

LIST OF PARTS									
LINE NO	NAME OF PART	NUMBER REQ'D PER COMPONENT	PIECEMARK (SEE TABLE)	MATERIAL				APPROXIMATE WEIGHT (POUNDS)	REMARKS
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER		
1	CLOSING CUP ASSEMBLY								
2	CUP, CLOSING	1		SHEET	PAPERBOARD		50-11-85		
3	WAD	1		SHEET	HARD HAIR FELT		33-6		
4									
5									
6	PLUG, CLOSING	1			PALMETTO PULP		AKS-970		
7									
8				4 PLY	THREAD, COTTON, UNBLEACHED	TYPE 1A1 TICKET NO. 12	VT-276		
9									
10					CEMENT, PETTMAN		JAN-C-99		
11									
12									

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR	50-0-1	DRG 75-14-626
2	CEMENT, PETTMAN	JAN-C-99	DRG 75-14-626
3			
4	CUPS, CLOSING, FOR BLANK AMMUNITION	50-11-85	DRG 75-14-626
5	FELT, HAIR, HARD (FOR BLANK AMMUNITION)	33-6	DRG 75-14-626
6	PAPER, GENERAL, SPECIFICATIONS FOR	UU-P-31	DRG 75-14-626
7	PLUGS, CLOSING, FOR CARTRIDGE CASES	AKS-970	DRG 75-14-626
8			
9	THREAD, COTTON	V-T-276	DRG 75-14-626
10			
11	STITCHES; SEAMS; AND STITCHING	DDD-S-751	DRG 75-14-626
12			

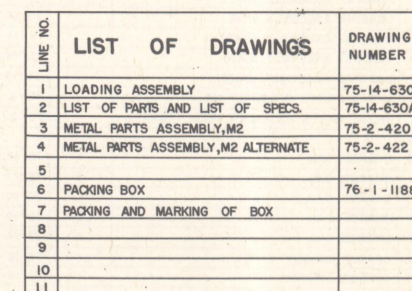
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NOTES:-
A- WAD TO BE SECURED TO UNDER SIDE OF CLOSING CUP WITH PETTMAN CEMENT. CEMENT MUST BE THOROUGHLY DRIED BEFORE ASSEMBLY INTO CARTRIDGE CASE. ALTERNATIVE:- WAD TO BE SECURED TO UNDER SIDE OF CLOSING CUP BY STITCHING AS SHOWN WITH A 4 PLY UNBLEACHED COTTON THREAD WITH FROM 4 TO 6 STITCHES PER INCH. STITCHING TYPE 301.
B- THE DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.
C- THE DIAMETER OF THE CUP OR PLUG MUST BE SUCH THAT ITS RIM WILL NOT SHEAR, FRACTURE OR CHIP AT THE EDGES WHEN FORCED THROUGH A RING GAGE HAVING AN INSIDE DIAMETER DIMENSION G, (SEE TABLE) WITH ENTERING EDGE OF THE GAGE CHAMFERED 45°X.02 INCH. WHEN CLOSING CUP 75-14-626C IS SEATED WITHOUT PRESSURE ON THE TOP OF GAGE CUP MUST PROTRUDE NOT LESS THAN 1/4 INCH ABOVE TOP SURFACE OF GAGE.

CALIBER	TABLE OF DIMENSIONS AND PIECEMARKS									
	CLOSING CUP ASSEM		WAD		CUP, CLOSING		PLUG, CLOSING		G IN NOTE-C	DIMENSION E
	PIECEMARK	A	PIECEMARK	B	PIECEMARK	C	PIECEMARK	D		
37 MM	75-14-626AA	—	75-14-626BA	1 1/16 - 1/16	75-14-626CA	.50-.02	75-14-626DA	.77-.02	1.86	1.885-.010
75 MM	75-14-626AB	2 1/8 - 1/4	75-14-626BB	2 3/8 - 1/16	75-14-626CB	.6-.1	75-14-626DB	.77-.02	3.05	3.080-.020
76 MM	75-14-626AC	2 1/8 - 1/4	75-14-626BC	2 3/8 - 1/16	75-14-626CC	.6-.1	75-14-626DC	.77-.02	3.07	3.100-.020
90 MM	75-14-626AD	3 1/4 - 1/4	75-14-626BD	4 1/4 - 1/16	75-14-626CD	.6-.1	75-14-626DD	1.02-.02	4.38	4.400-.020
105 MM	75-14-626AE	3 1/8 - 1/4	75-14-626BE	3 3/8 - 1/16	75-14-626CE	.6-.1	75-14-626DE	.77-.02	4.16	4.190-.020

LOADING ACCESSORIES FOR BLANK AMMUNITION			
OCT. 1, 1945	CLASS	DIVISION	DRAWING
REVISIONS	75	14	626
1 11-30-47	TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED		
	DECIMAL ±		
	FRACTIONAL ±		
	ANGULAR ±		
DRG. PERTAINS TO			
75-142	CHECKER	TRACER	GRS ENGINEER
75-1-67	75-1-67	75-1-67	75-1-67
75-1-107	75-1-107	75-1-107	75-1-107
75-1-154	75-1-154	75-1-154	75-1-154
75-1-155	75-1-155	75-1-155	75-1-155
75-1-212	75-1-212	75-1-212	75-1-212
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE			
ORD. DEPT. U.S.A.			
ORDNANCE DEPT. U.S.A.			



NOTICE: THIS DRAWING SHALL NOT BE USED NOR
REPRODUCED EITHER WHOLLY OR IN
PART EXCEPT IN CONNECTION WITH
UNITED STATES GOVERNMENT
PROCUREMENT.

NOTE A

NOTE E

NOTE F

NOTE G

NOTES H, K, AND L

42 IN. CM

4 IN.

LOAD

SHELL, CHEMICAL, 4.2 INCH M2 AND M2 ALTERNATE LOADING ASSEMBLY AND MARKING DATA					
AUGUST 3, 1950		CLASS	DIVISION	DRAWING	FILE
REVISIONS		75	14	630	
		TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
		DECIMAL ±			
		FRACTIONAL ±			
		ANGULAR ±			
DRG. PERTAINS TO		DFTSMAN	TRACER	ENGINEER	
75-1-284		CHECKER S.G.	S.C. JEN	H. ROBERTSON ENGINEER	
		SUBMITTED:			
		G. F. Teetsch AMM. DES. ENG. OR. DEPT., U. S.			
		EXAMINED:			
		M. L. Lewis ORD. ENG. OR. DEPT., U. S.			
		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:			
		J. P. Starnes COL. ORDN. DEPT., U. S.			
D		ORDNANCE DEPT., U. S. A.			

HEAT TREATMENT AND FINAL FINISH											
LIST OF PARTS											
LINE NO.	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECE-MARK	MATERIAL				APPROXIMATE UNIT WEIGHT POUNDS	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS	
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER				
1	LOADING ASSEMBLY (H)		75-14-630A				96-81-109	(b)			
2	LOADING ASSEMBLY (HT)		75-14-630B				96-81-219	(b)			
3	LOADING ASSEMBLY (HD)		75-14-630C				96-81-232	(b)			
4	LOADING ASSEMBLY (CG)		75-14-630D				96-81-165	(b)			
5	LOADING ASSEMBLY (CK)		75-14-630E				96-81-219	(b)			
6	LOADING ASSEMBLY (FS)		75-14-630F				96-81-152	(b)			
7	LOADING ASSEMBLY (WP)		75-14-630G				96-81-136	(b)			
8	LOADING ASSEMBLY (FM)		75-14-630H				96-81-154	(b)			
9	LOADING ASSEMBLY (PWP)		75-14-630K				96-81-160	(b)			
10	LOADING ASSEMBLY (CNS)		75-14-630L				96-81-166	(b)			
11	LOADING ASSEMBLY (CNB)		75-14-630M				96-81-171	(b)			
12	METAL PARTS ASSEMBLY M2		75-2-420A				196-81-135	15.50			
13	METAL PARTS ASSEMBLY M2 ALTERNATE		75-2-422A				196-81-135	15.41			
14											
15	CHARGE, GAS	I	75-14-630N		GAS, PERSISTENT (H)		96-21-2	6.20			
16	CHARGE, GAS	I	75-14-630P		GAS, PERSISTENT (HT)			5.75			
17	CHARGE, GAS	I	75-14-630Q		GAS, PERSISTENT (HD)		96-21-40	6.00			
18	CHARGE, GAS	I	75-14-630R		GAS, NON-PERSISTENT (CG)		96-21-3	6.25			
19	CHARGE, GAS	I	75-14-630S		GAS, NON-PERSISTENT (CK)		196-21-32	5.00			
20	CHARGE, SMOKE	I	75-14-630T		SULFUR TRIOXIDE-CHLORSULFONIC ACID SOLFS		JAN-C-373	7.50			
21	CHARGE, SMOKE	I	75-14-630U		WHITE PHOSPHORUS (WP)		JAN-P-215	7.50			
22	CHARGE, SMOKE	I	75-14-630W		TITANIUM TETRACHLORIDE (FM)		JAN-T-357	7.50			
23	CHARGE, SMOKE	I	75-14-630X		PLASTICIZED WHITE PHOSPHORUS (PWP)		JAN-P-327	6.25			
24	CHARGE, GAS	I	75-14-630Z		GAS, IRRITANT (CNS)		96-21-5	7.00			
25	CHARGE, GAS	I	75-14-630AA		GAS, IRRITANT (CNB)		196-21-15	5.45			
26											
27					COMPOUND, RUST PREVENTIVE	LIGHT	2-84			(a)	
28					LACQUER ENAMEL, BLUE-GRAY	I	JAN-L-73				
29					LACQUER ENAMEL, GREEN	I	JAN-L-73				
30					LACQUER ENAMEL, RED	I	JAN-L-73				
31					LACQUER ENAMEL, YELLOW	I	JAN-L-73				
32					WHITE LEAD	TYPE II	TT-W-261				

- (a) ALTERNATIVE MATERIAL: (C) COMPOUND, RUST PREVENTIVE, THIN FILM, SPEC. AXS-673.
 (b) SEE TABLE.
 (c) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

SUPERSEDES B8-13-45 AND C8-13-III WITHOUT CHANGE AUG 3, 1950.

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY	PHYSICAL PROPERTIES	
				Y.P.	T.S.
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECIFICATION FOR	50-0-1	DWG 75-14-630	EL 2	
2	CHLORSULFONIC ACID-SULFURTRIOXIDE SOLUTION (FS)	JAN-C-379	DWG 75-14-630	RED.	
3	COMPOUND, RUST PREVENTIVE, THIN FILM	AXS-673	DWG 75-14-630	BR.	
4	COMPOUND, RUST PREVENTIVE, LIGHT	2-84	DWG 75-14-630	ROCK.	
5	FILLING (H)	96-21-2	DWG 75-14-630		
6					
7	FILLING (HD)	96-21-40	DWG 75-14-630		
8	FILLING (CG)	96-21-3	DWG 75-14-630		
9	FILLING (CK)	196-21-32	DWG 75-14-630		
10	FILLING (CNS)	96-21-5	DWG 75-14-630		
11	FILLING (CNB)	96-21-15	DWG 75-14-630		
12	LACQUER, ENAMEL, LUSTRELESS	JAN-L-73	DWG 75-14-630		
13					
14					
15					
16	PLASTICIZED WHITE PHOSPHORUS (PWP)	JAN-P-337	DWG 75-14-630		
17	TITANIUM TETRACHLORIDE (FM)	JAN-T-357	DWG 75-14-630		
18	WHITE PHOSPHORUS (WP)	JAN-P-215	DWG 75-14-630		
19	PAINT, VARNISH, LACQUER, AND RELATED MATERIALS; METHODS OF ETC	TT-P-141	JAN-L-73		
20	WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL	TT-W-261	DWG 75-14-630		
21	SHELL, 4.2 INCH CHEM MORTAR, WP FILLING	96-81-136	DWG 75-14-630		
22	SHELL, 4.2 INCH CHEM MORTAR, CG FILLING	96-81-165	DWG 75-14-630		
23	SHELL, 4.2 INCH CHEM MORTAR, CK FILLING	96-81-219	DWG 75-14-630		
24	SHELL, 4.2 INCH CHEM MORTAR, CNS FILLING	96-81-171	DWG 75-14-630		
25	SHELL, 4.2 INCH CHEM MORTAR, CNB FILLING	96-81-166	DWG 75-14-630		
26	SHELL, 4.2 INCH CHEM MORTAR, FM FILLING	96-81-154	DWG 75-14-630		
27	SHELL, 4.2 INCH CHEM MORTAR, FS FILLING	96-81-153	DWG 75-14-630		
28	SHELL, 4.2 INCH CHEM MORTAR, H FILLING	96-81-169	DWG 75-14-630		
29	SHELL, 4.2 INCH CHEM MORTAR, HD FILLING	96-81-232	DWG 75-14-630		
30	SHELL, 4.2 INCH CHEM MORTAR, HT FILLING	96-81-229	DWG 75-14-630		
31	SHELL, 4.2 INCH CHEM MORTAR, PWP FILLING	96-81-260	DWG 75-14-630		

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTICE:-THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART, EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

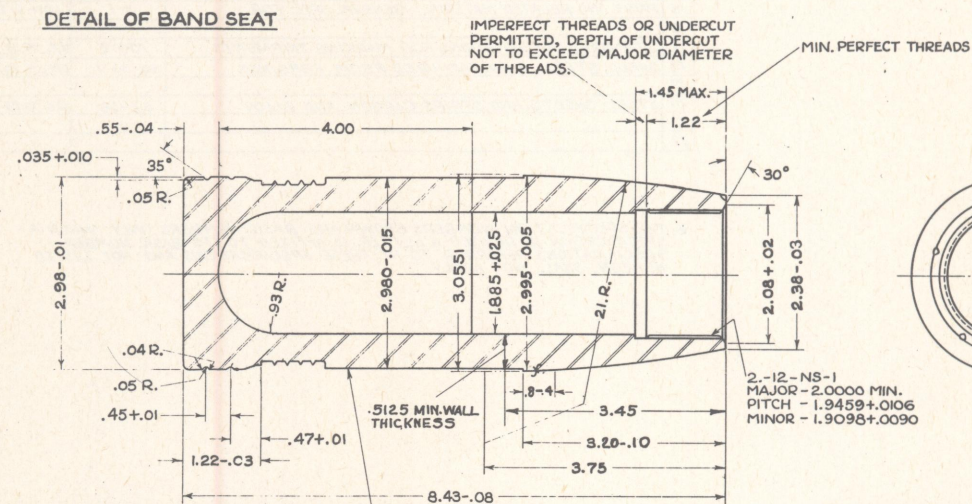
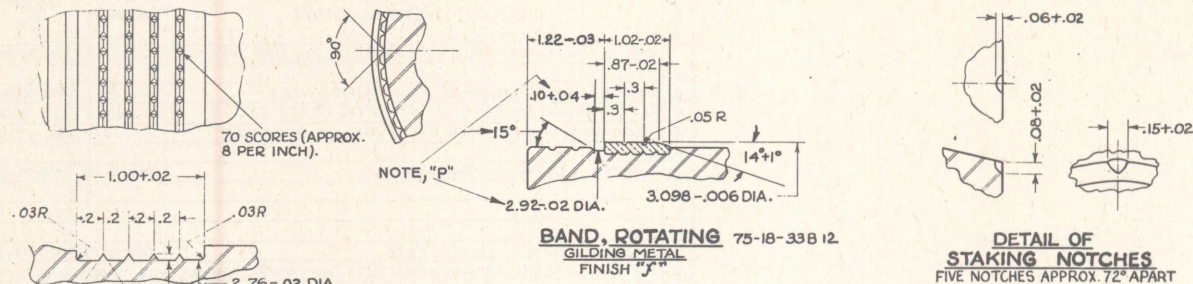
SHELL, CHEMICAL, 4.2 INCH M2 AND M2 ALTERNATE LIST OF PARTS AND SPECIFICATIONS				
AUGUST 3, 1950		CLASS	DIVISION	DRAWING FILE
REVISIONS		75	14	630A
		TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED		
		DECIMAL ±		
		FRACTIONAL ±		
		ANGULAR ±		
DRG. PERTAINS TO		DFTSMAN	TRACER	ENGINEER
		CHECKER	CHK	ENGINEER
		SUBMITTED: <i>A. T. Taitelboim</i>		
		ANN. DES. ENG. ORD. DEPT. U.S.A.		
		EXAMINED: <i>W. H. H. H.</i>		
		ORD. ENG. ORD. DEPT. U.S.A.		
		APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>J. H. H. H.</i>		
		COL. ORD. DEPT. U.S.A.		
D		ORDNANCE DEPT., U.S.A.		

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION EXCEPT SMALL ARMS AMM GENERAL SPEC.FOR	50-0-1	DRG 75-17-10
2			
3	CLEANING AND PREPARATION OF METAL SURFACES	JAN-C-490	DRG 75-17-10
4	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	Q Q-M-151	QQ-S-633
5			
6	PAINT, VARNISH, LACQUER AND RELATED MATERIALS; GEN SPEC	TT-P-141	JAN-P-450
7	PAINT, ACID-PROOF, BLACK	JAN-P-450	DRG 75-17-10
8			
9			
10	TRACER, T2 AND M4, LOADING, ASSEMBLY AND PACKING	AXS-1706	DRG 75-17-10
11	STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS	100-2	DRG 75-17-10
12	STEEL, CARBON, BARS (GENERAL PURPOSE)	QQ-S-633	DRG 75-17-10
13			
14			
15			

ENLARGED SECTION SHOWING FORMATION OF CAVITY

CLASSIFICATION CHANGED TO UNCLASSIFIED
BY AUTHORITY OF O.C.M. 31655
BY CAPT. James J. McDonald DECEMBER 16, 1947
CAPT. DD

HEAT TREATMENT & PROTECTIVE FINISH					CLASS		DIVISION		DRAWING	
					75		17		10	
PHYSICAL PROPERTIES					DRAWING PERTAINS TO					
No. 1 2 3 4					75-1-261 75MM, T48 75-1-249 76MM M315 75-1-262 90MM, T45 75-1-370 105MM, T24E4 75-14-553 105MM, T32E1 75-14-568 90MM, T50 75-14-613 120MM, T17 75-14-614 90MM, T48		75MM 17MM 75MM 17MM 75MM 17MM 75MM 17MM 75MM 17MM 75MM 17MM 75MM 17MM		TAM 1566 155MM, T32E 155MM, T32E 155MM, T32E 155MM, T32E 155MM, T32E 155MM, T32E	
ORIGINAL DATE OF DRAWING AUGUST 9, 1945										
REVISIONS										
No.	Date	Rev. For		By						
1	1-7-46									
2	2-8-46									
3	11-6-46	DTI - 11144								
4	12-16-47									
5	2-23-50	ECO 16194								
VEIGHT					DO NOT		DO		APPLY PART NO.	
									(As Specified)	
SCALE					--		ALPHABET		F.A.H.	
							F.A.H.		F.A.H.	
TOLERANCES ON DIMENSIONS					F.A.H.		F.A.H.		F.A.H.	
(Surface, Otherwise Specified)					F.A.H.		F.A.H.		F.A.H.	
FOLLOWING TOLERANCES					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
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FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
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FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
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DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
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DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
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DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
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DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.		F.A.H.		F.A.H.	
FRACTIONAL IN					F.A.H.		F.A.H.		F.A.H.	
DECIMAL IN					F.A.H.</					



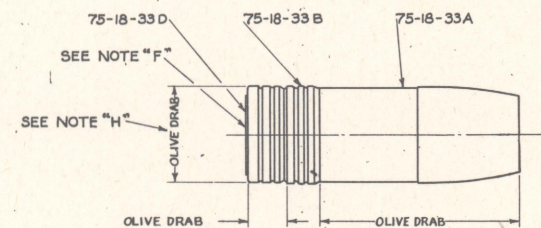
STAMP ON CIRCUMFERENCE OF BODY .25 FORWARD OF BAND SEAT, WITH 1/2 LETTERS AND FIGURES. LOT NUMBER YEAR OF MANUFACTURE, CALIBER, AND DESIGNATION OF SHELL

SAMPLE STAMPING:-
75-18-33 B 12 75-20-71 A 13
LOT NUMBER YEAR OF MANUFACTURE

NOTES:-

- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
- MEAN VOLUME OF CAVITY TO OVERFLOWING = 21.39 CU. IN.
- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES. CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
- SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES. THE FOLLOWING MAXIMUM ECCENTRICITIES OF CYLINDRICAL SURFACES WILL BE ACCEPTED. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING IS TWICE THE ECCENTRICITY.)
 - BETWEEN BODY (2.980±.015 DIA.) AND THREADS (2-12-NS-1) .015
 - BETWEEN BOURRELET (2.995±.005 DIA.) AND ROTATING BAND (3.098±.005 DIA.) WITH SHELL BODY (2.980±.015 DIA.) .006 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE).
 - BETWEEN BASE (2.98±.01 DIA.) AND BASE COVER .03
- SECURE BASE COVER TO BASE OF SHELL BY OVERLAPPING SPOT WELDS AROUND EDGE OF COVER.
- PAINT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE I OR II.
- COAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH OLIVE DRAB LACQUER ENAMEL OR ENAMEL.
- BOURRELET, AFTER PAINTING, MUST PASS A 2.997 MAX DIA RING GAGE.
- REAR FACE OF ROTATING BAND SHALL BE A MAX DISTANCE OF ±.02 FROM REAR EDGE OF BAND SEAT.
- REMOVE ALL BURRS.
- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
- RELIEF GROOVE MAY BE MACHINED EITHER BEFORE OR AFTER BANDING.
- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .041

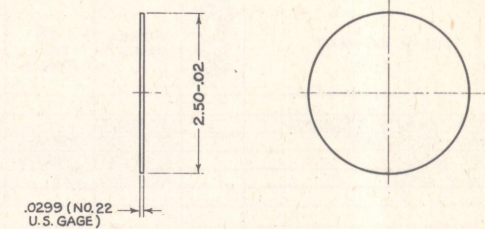
MINIMUM PHYSICAL PROPERTIES	
YIELD STRENGTH	65,000 $\frac{\text{LBS}}{\text{SQ IN}}$
ELONGATION IN 2 IN.	15%
REDUCTION OF AREA	30%



METAL PARTS ASSEMBLY 75-18-33 F 12

WEIGHT	
PART	POUNDS
BAND, ROTATING	.46
BODY, SHELL	9.36
COVER, BASE	.04
TOTAL WEIGHT, EMPTY	9.86±.20

SCALE, INCHES, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{16}$



COVER, BASE 75-18-33 D 10
STEEL, WD 1020 OR WD 1010
BRIGHT, SOFT, ANNEALED.

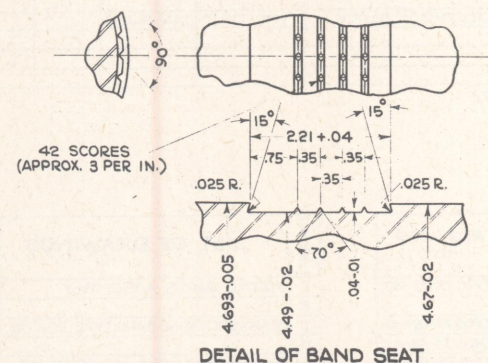
LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-18-33
2	LIST OF PARTS AND LIST OF SPEC.	75-18-33 A
3	FORGING FOR SHELL, H.E., 3 INCH, M42A1	75-20-71 (a)
4	BLANKS, ROTATING BAND TYPE C	75-14-41 (a)

(a) DRAWING NOT MANDATORY.

SUPERSEDES OLD TRACING 75-18-33
UNDER REVISION DATE OF DEC. 30, 1942

SHELL, H.E., 76 MM, M42A1 METAL PARTS ASSEMBLY AND DETAILS

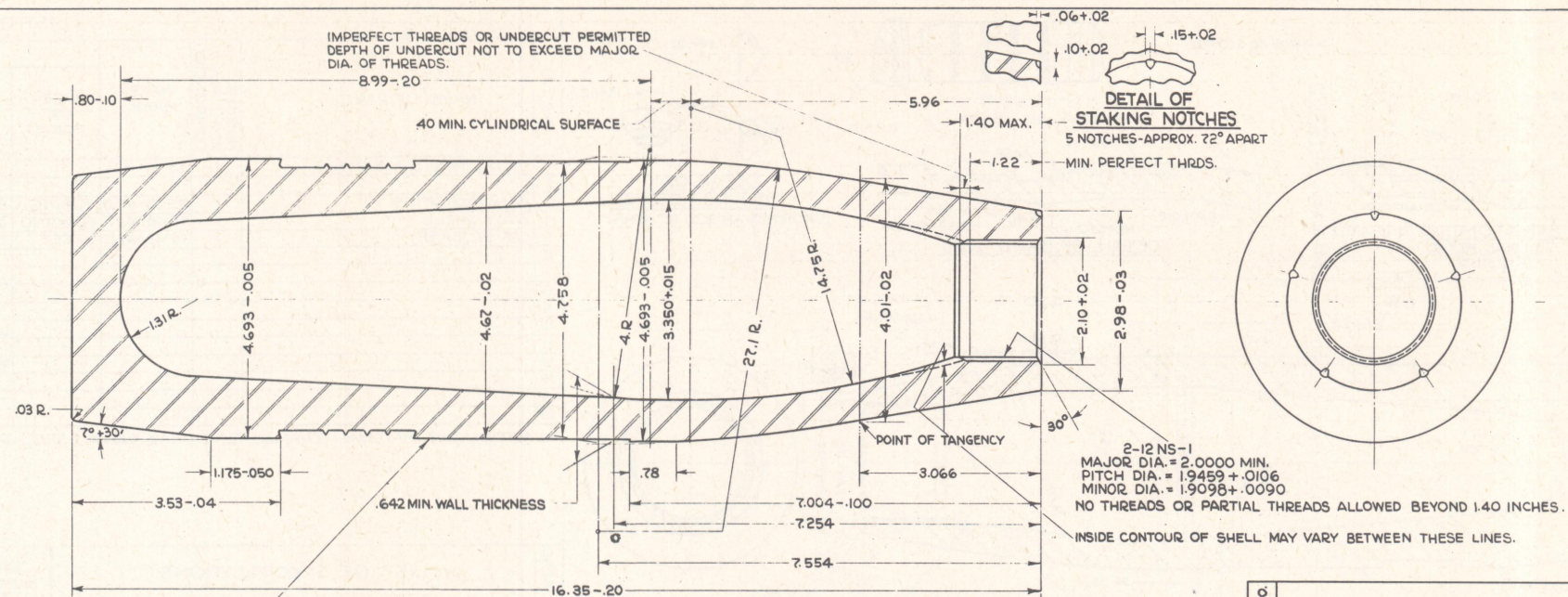
AUGUST 3, 1932	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	18	33	
8 10-4-41				
9 11-29-41				
10 12-30-42				
11 8-14-43				
12 8-19-44				
13 8-18-45				
DRG. PERTAINS TO				
CHECKER	L.N.G.	D.C.S.		
SUBMITTED				
EXAMINED				
75-14-170				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
ORDNANCE DEPT., U. S. A.				



NOTES :-

- A- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
MEAN VOL. OF CAPACITY TO OVERFLOWING 98.9 CLIN.
- C- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION
TOLERANCES. CONTROL DIMENSION TOLERANCES TO
BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
- D- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE
ON DIMENSIONS.
- E- SHELL MUST BE CAREFULLY CENTERED DURING THE
VACUUM MACHINE OPERATIONS IN ORDER
TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES,
THE FOLLOWING MAXIMUM ECCENTRICITIES OF CYLINDRICAL
SURFACES WILL BE ACCEPTED: (WHEN MEASURING
ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE
TOTAL READING ON THE DIAL IS TWICE THE ECCENTRICITY)
 - 1. BETWEEN BOOSTER SEAT THREADS AND OUTSIDE
CYLINDRICAL SURFACE,.015
 - 2. BETWEEN BOOSTER SEAT AND ROTATING BAND WITH
SHELL BODY,.007 (BOURRELET MUST OVERLAP
BODY ON ENTIRE CIRCUMFERENCE.)
 - 3. BETWEEN BASE COVER AND BASE OF SHELL,.03

- F- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF SHELL, TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .039
- G- SECURE BASE COVER TO BASE OF SHELL BY CONTINUOUS OVERLAPPING SPOT WELD OR SEAM WELD AROUND ENTIRE EDGE OF BASE COVER.
- H- PAINT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE 2011.
- K- COAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH LACQUER, ENAMEL OR ENAMEL, OLIVE-DRAB.
- L- REAR FACE OF ROTATING BAND SHALL BE MAX DISTANCE OF $\pm .02$ FROM REAR EDGE OF BAND SEAT.
- P- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
- Q- REMOVE ALL BURS.



STAMP ON CIRCUMFERENCE OF BODY .25 FORWARD OF
ROTATING BAND SEAT, WITH $\frac{1}{8}$ LETTERS AND FIGURES,
LOT NUMBER

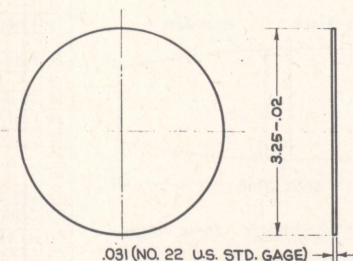
LOT NUMBER YEAR OF MANUFACTURE, CALIBER
AND DESIGNATION OF SHELL. SAMPLE STAMPING:-
"LOT 00-0-00, - 0000, - 4.7 IN. M73"

LOT NUMBER	YEAR
1	1964
2	1964
3	1964
4	1964
5	1964
6	1964
7	1964
8	1964
9	1964
10	1964
11	1964
12	1964
13	1964
14	1964
15	1964
16	1964
17	1964
18	1964
19	1964
20	1964
21	1964
22	1964
23	1964
24	1964
25	1964
26	1964
27	1964
28	1964
29	1964
30	1964
31	1964
32	1964
33	1964
34	1964
35	1964
36	1964
37	1964
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99	1964
100	1964

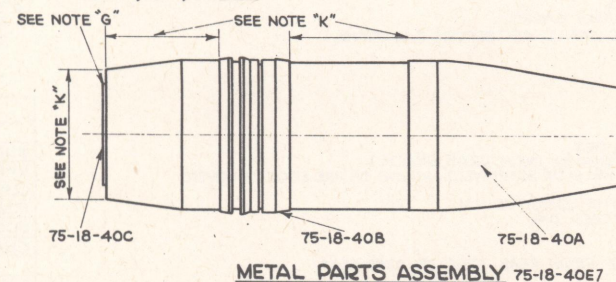
BODY, SHELL 75-18-40A7
STEEL FORGING
FINISH OUTSIDE *2*

MIN. PHYSICAL PROPERTIES

YIELD STRENGTH	85,000
ELONGATION	12%
REDUCTION	25%



COVER, BASE 75-18-40C5
STEEL, WDI020 OR WDI010
BRIGHT, SOFT, ANNEALED



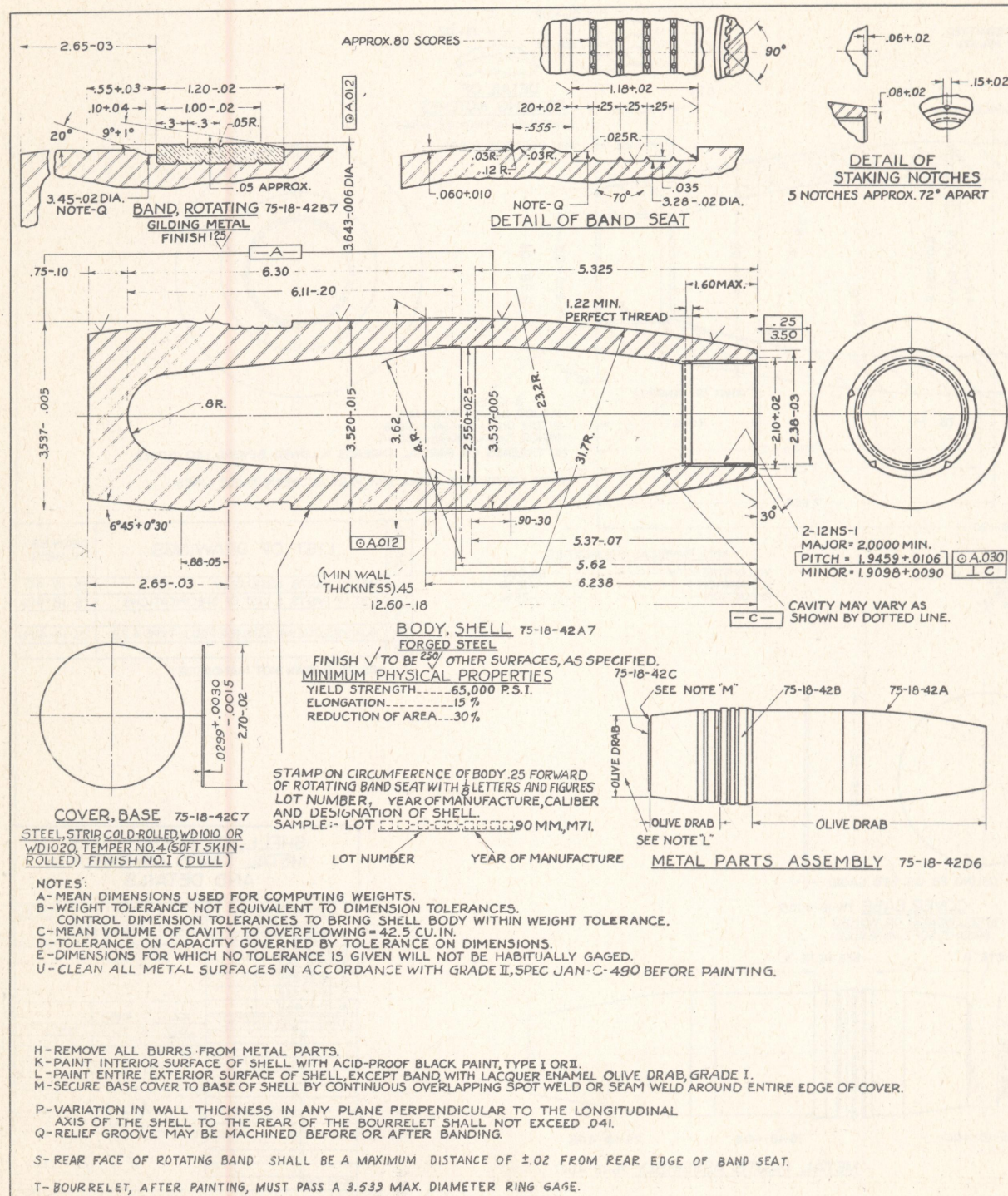
SCALE, INCHES: $\frac{1}{2}$, $\frac{1}{1}$, $\frac{2}{1}$

DESIGN DATA		WEIGHTS	
PART	POUNDS	PART	POUNDS
BODY, SHELL	40.48	BODY, SHELL	40.48
BAND, ROTATING	1.58	BAND, ROTATING	1.58
BOOSTER, M20	.73	COVER, BASE	.07
CHARGE (CAST TNT)	5.26		
COVER, BASE	.07		
FUZE, M61	1.62		
TOTAL	49.74	TOTAL WEIGHT EMPTY	42.13 ± .75

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-18-40
2	LIST OF PARTS & LIST OF SPECIFICATIONS	75-18-40A
3		
4	BLANKS, ROTATING BAND FOR PROJ., TYPE 4.7 B	75-14-41(t)
5		

(t) DESIGN SHOWN NOT MANDATORY

SHELL, HE, 120MM, M73 METAL PARTS ASSEMBLY AND DETAILS			
JUNE 13, 1940			
REVISONS			
1	7-29-41	7	8-15-45
2	12-8-41		
3	6-9-42		
4	10-22-42		
5	5-27-43		
6	11-1-43		
DRG. PERTAINS TO			
<div style="display: flex; justify-content: space-between;"> <div> <p>CLASS 75</p> <p>DIVISION 18</p> <p>FILE 40</p> </div> <div> <p>TO BE MADE ON THE BASIS OF NOT INTERFERING WITH THE DESIGN OF THE PARTS OF THE ASSEMBLY</p> </div> </div>			
<p>DESIGN KL</p> <p>REVISION 120MM</p> <p>REMARKS <i>120mm change</i></p>		<p>RMS</p> <p>HEAD 41-5</p>	
<p>EXAMINER <i>S. J. [Signature]</i></p> <p>MAJ. [Signature]</p>		<p>MAJ. [Signature]</p>	
<p>APPROVED BY [Signature]</p> <p>DATE [Signature]</p>		<p>U.S. ARMY</p>	
<p>75-14-318</p>		<p>LET COPY</p>	
ORDNANCE DEPT. U.S.A.			



LIST OF PARTS											
LINE NO.	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE- MARK	MATERIAL				APPROXIMATE UNIT WEIGHT (POUNDS)	APPROX GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS	
				SIZE OR FORM	KIND	GRADE	SPEC. NUMBER				
1	METAL PARTS ASSEMBLY	1	75-18-42D				50-30-1	19.11			
2											
3	BAND, ROTATING	1	75-18-42B	TUBING	GILDING METAL		50-27-1	.71			
4	BODY, SHELL	1	75-18-42A	FORGING	STEEL		57-104-2	18.35			
5	COVER, BASE	1	75-18-42C	SHEET	STEEL	WD1010R1020	57-136	.05			
6											
7											
8											
9											
10					LACQUER ENAMEL, OLIVE DRAB	I	JAN-L- 73			(a)	
11											
12					PAINT, ACID-PROOF BLACK	TYPE I OR II	JAN-P-450				
13											
14											
15											

(a) ALTERNATIVE MATERIAL:-ENAMEL, OLIVE DRAB, GRADE I, SPEC. JAN-E-74

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECIFICATION	50-0-1	DRG. 75-18-42
2			
3	BLANKS, ROTATING BAND, FOR PROJECTILES	50-27-1	DRG. 75-18-42
4	CLEANING AND PREPARATION OF FERROUS METAL SURFACES FOR, ETC	JAN-C-490	DRG. 75-18-42
5	ENAMEL, LUSTRELESS, QUICK-DRYING	JAN-E-74	DRG. 75-18-42
6	FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2	DRG. 75-18-42
7			
8			
9			
10	LACQUER ENAMEL, LUSTRELESS	JAN-L-73	DRG. 75-18-42
11			
12	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-104-1
13			
14	PAINT, ACID-PROOF BLACK FOR AMMUNITION	JAN-P-450	DRG. 75-18-42
15	PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, METHODS OF, ETC	TT-P-141	JAN-L-73
16			
17			
18			
19	SHELL, STEEL, MANUFACTURED FROM FORGINGS	50-30-1	DRG. 75-18-42
20	SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR	100-2	DRG. 75-18-42
21	STEEL, FORGING, FOR SHELL STOCK	57-104-1	57-104-2
22	STEEL, SHEETS AND STRIPS, CARBON AND ALLOY	57-136	DRG. 75-18-42
23			
24			
25			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

DESIGN DATA		WEIGHTS	
PART	POUNDS	PART	POUNDS
BODY, SHELL	18.35	BODY, SHELL	18.35
BAND, ROTATING	.71	BAND, ROTATING	.71
COVER, BASE	.05	COVER, BASE	.05
FUZE, M43A5	1.41	TOTAL WEIGHT, EMPTY	19.11 ± .30
BOOSTER, M21A4	.73		
CHARGE (CAST T.N.T.)	2.04		
TOTAL WEIGHT	23.29		

SCALE: 2 1/2

LINE NO.	LIST OF DRAWINGS	DRAWING NUMBER
1	METAL PARTS ASSEMBLY	75-18-42
2		
3	BLANKS, ROTATING BAND, TYPE "90A" (b)	75-14-41
4		
5	FORGING FOR SHELL, H.E., 90MM, M71	75-20-92
6	STANDARD FOR DIMENSIONING, ETC	30-1-7

(b) DESIGN SHOWN NOT MANDATORY

SHELL, H.E., 90MM, M71.
METAL PARTS ASSEMBLY, AND DETAILS.

JUNE 14, 1941

CLASS 75 DIVISION 18 DRAWING 42

REVISIONS

1	8-27-41	7	12-15-49
2	12-18-41		
3	9-14-42		
4	6-5-43		
5	10-25-44		
6	8-15-45		

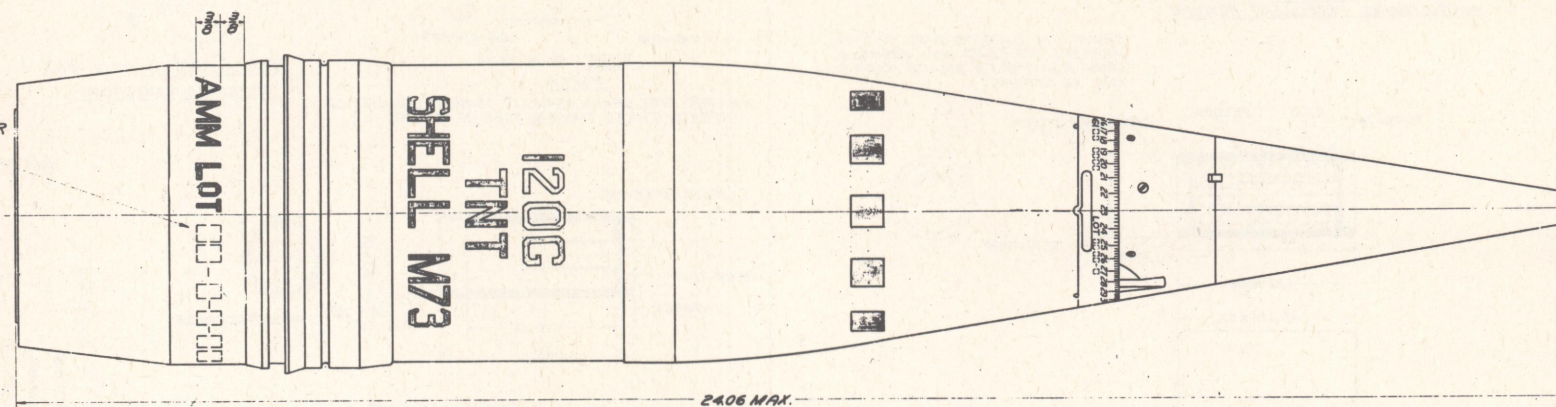
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED.

DECIMAL ±
FRACTIONAL ±
ANGULAR ±

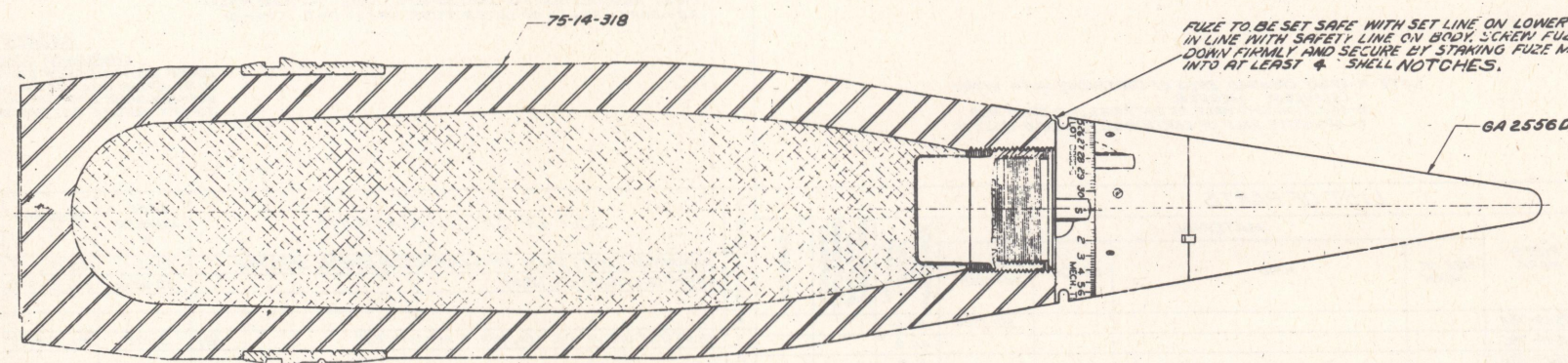
DRG. PERTAINS TO

CHECKER: KL
SUBMITTED: KL
EXAMINED: KL
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: KL
ORDNANCE DEPT., U.S.A.

PAINT OVER SHELL LOT NUMBER, WITH OLIVE DRAB ENAMEL, THEN MARK AMM LOT NUMBER (INCLUDING LOADER'S INITIALS OR SYMBOL) WITH YELLOW MARKING INK.



MARKING DIAGRAM

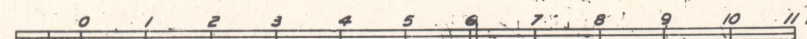


ASSEMBLY 75-14-318

LIST OF COMPONENTS, ETC.

LINE NO.	NAME OF COMPONENT	DRAWING NUMBER OR REFERENCE	SPEC.	WEIGHT (POUNDS)	REMARKS
1	ASSEMBLY	75-18-48A		49.77	
2					
3	BOX, PACKING	76-1-421	100-22	20.00	
4					
5	CONTAINER, FIBER, M30A1	PIF-18	50-61-3	5.10	
6					
7	FUZE, MECHANICAL TIME, M61A1 BOOSTER, M21A4	GA2556		2.38	
8	INK, MARKING, BLACK		36-2		
9	ENAMEL, OLIVE DRAB, GRADE I		9-67		(6)
10					
11	PACKING AND MARKING OF PACKING BOX	20-4-312	100-2		
12	PACKING AND MARKING OF FIBER CONTAINER	75-14-344	100-2		
13					
14	SHELL, H.E. 120-MM., M73, LOADING ASSEMBLY	75-14-318	50-15-5	41.39	
15	SHELL, H.E. 120-MM., M73, METAL PARTS ASSEMBLY	75-18-40	50-30-1	42.13	
16	SHELL AS FIRED	75-15-05		43.96	
17					

(6) ALTERNATIVE MATERIAL: LACQUER ENAMEL, OLIVE DRAB, GRADE I, SPEC 3-162



SHELL, H.E., M73, W/ FUZE, M61A1, FOR 120-MM GUN. ASSEMBLY AND MARKING DIAGRAM.

APRIL 25, 1942.

REVISIONS	CLASS	DIVISION	DRAWING	FILE
1 10-22-42	75	18	48	
2 8-15-45				

SYMBOL

DRG. PERTAINS TO

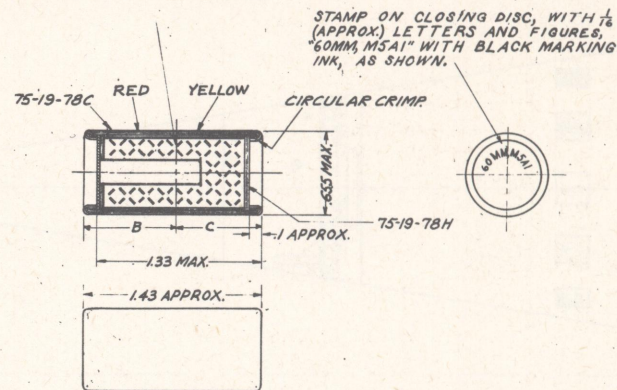
SUBMITTED

EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

ORDNANCE DEPT. U. S. A.

CHARGE 75-19-78B3
40.0±10 GRAINS, PROPELLANT POWDER



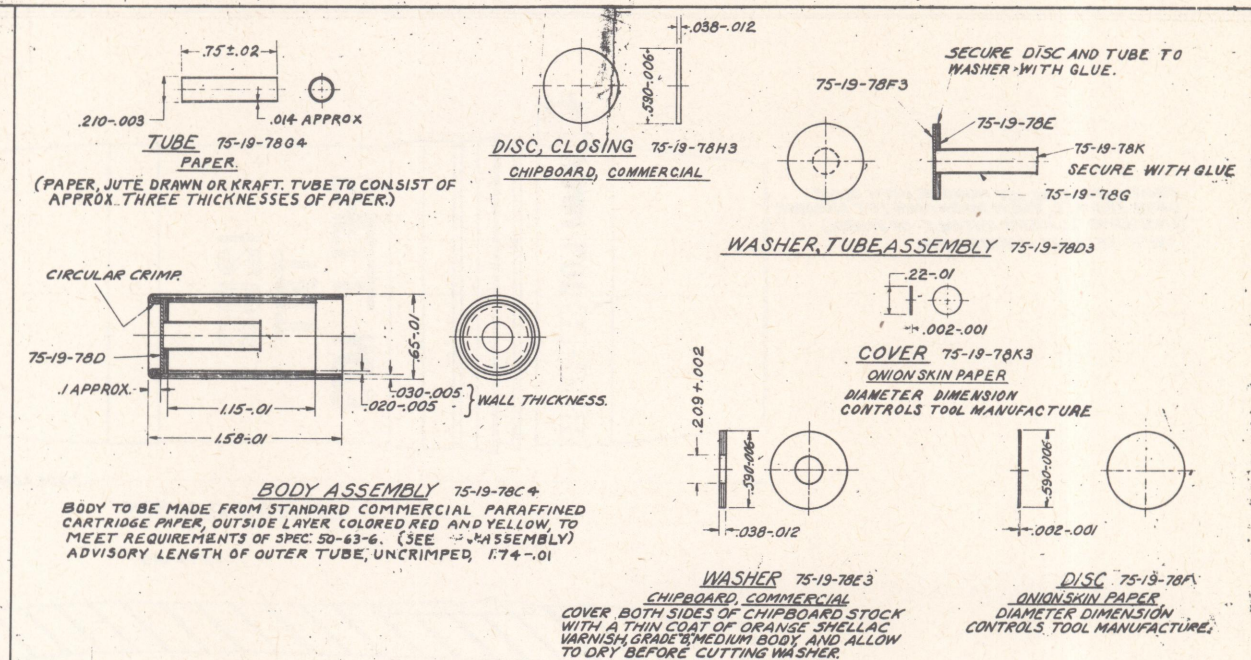
ASSEMBLY 75-19-78A4

NOTE-A-SPRAY CRIMPED ENDS OF CARTRIDGE WITH NITRO-CELLULOSE LACQUER.
B-IGNITION END HALF OF CARTRIDGE, COLORED RED
C-OPPOSITE HALF OF CARTRIDGE, COLORED YELLOW

LIST OF PARTS

LINE NO	NAME OF PART	NUMBER REQD PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC. NUMBER	APPROXIMATE WEIGHT UNIT (GRAINS)	APPROXIMATE STOCK PER 1000 ASSEMBLIES	REMARKS
1	ASSEMBLY		75-19-78A					50-63-6	82.2		
2	BODY ASSEMBLY	1	75-19-78C						40.9		
3	WASHER, TUBE ASSEMBLY	1	75-19-78D						2.8		
4	COVER	1	75-19-78K	SHEET	ONION SKIN PAPER			JAN-P-151			
5	CHARGE	1	75-19-78B		PROPELLANT POWDER			50-12-14	40.0		
6	DISC	1	75-19-78F	SHEET	ONION SKIN PAPER			JAN-P-151			
7	DISC, CLOSING	1	75-19-78H	SHEET	CHIPBOARD			COMMERCIAL	1.8		
8	WASHER	1	75-19-78E	SHEET	CHIPBOARD			COMMERCIAL	1.3		
9	TUBE	1	75-19-78G	SHEET	PAPER, JUTE DRAWN OR KRAFT (.0045 THICK)			COMMERCIAL	1.5		
10					GLUE			3-102			(Q)
11					INK, MARKING, BLACK			36-2			
12					VARNISH, SHELLAC, ORANGE	GRADE 8, MED. BODY		TF-V-91			
13					LACQUER, CELLULOSE NITRATE	CLEAR		3-158			

(Q) ALTERNATIVE: - CEMENT, COMMERCIAL



LINE NO	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC FOR	50-0-1	DRG. 75-19-78
2	CARTRIDGE, IGNITION, M5A1	50-63-6	DRG. 75-19-78
3			
4			
5	GLUE (FOR USE IN THE LOADING OF AMMUNITION)	(E) 3-102	DRG. 75-19-78
6			
7	INK, MARKING, (FOR MARKING AMMUNITION)	36-2	DRG. 75-19-78
8	PAINTS AND RELATED MATERIALS, GENERAL SPECS FOR	3-1	36-2
9	PAPER, ONION SKIN	(E) JAN-P-151	DRG. 75-19-78
10	PAPER, GENERAL SPECIFICATIONS	(E) UU-P-31	50-11-49
11	POWDER, PROPELLANT, 60MM. MORTAR (FOR IGNITION CARTRIDGES)	50-12-14	DRG. 75-19-78
12			
13	VARNISH, SHELLAC	TF-V-91	DRG. 75-19-78
14			
15	LACQUER, CELLULOSE NITRATE AND THINNER	3-158	DRG. 75-19-78
16			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY
WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY
(E) THESE SPECIFICATIONS ARE NOT MANDATORY BUT MAY BE USED BY THE CONTRACTOR.

NOTICE
NOT BE USED FOR
OTHER THAN THE
USE FOR WHICH
IT WAS DESIGNED
AND MANUFACTURED
BY THE GOVERNMENT

CARTRIDGE, IGNITION, M5A1, FOR 60MM. MORTAR AMMUNITION. ASSEMBLY AND DETAILS.

AUGUST 28, 1940

REVISIONS

1	12-10-40	
2	5-27-41	
3	1-9-43	
4	8-15-45	

CLASS 75 DIVISION 19 DRAWING 78

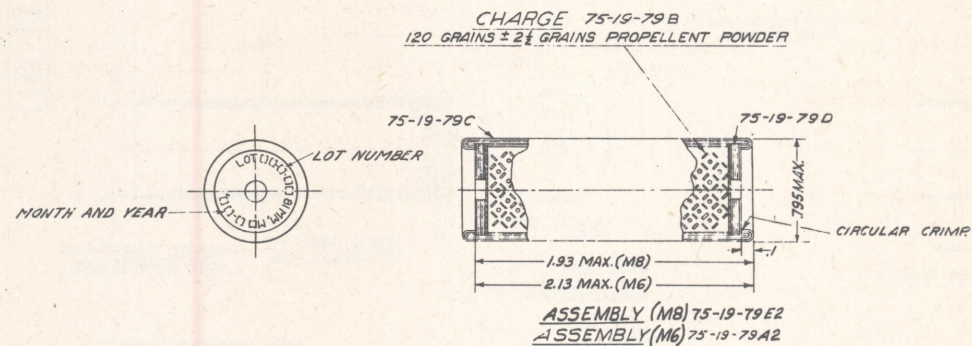
SYMBOL

DRG. PERTAINS TO

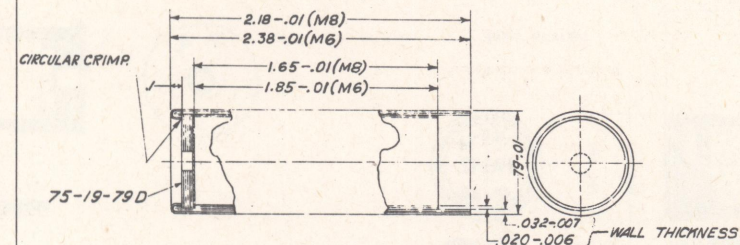
EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

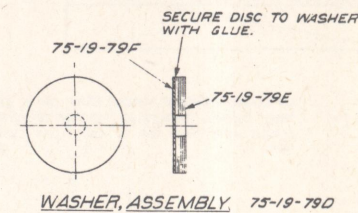
ORDNANCE DEPT., U. S. A.



NOTES: A. STAMP ONE WASHER PER ASSEMBLY WITH $\frac{1}{8}$ (APPROXIMATELY) LETTERS AND FIGURES, LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER) 81MM, M6, OR M8 AS APPLICABLE, AND DATE (MONTH AND YEAR) OF LOADING. USE BLACK MARKING INK.
B. SPRAY CRIMPED ENDS OF CARTRIDGE WITH NITROCELLULOSE LACQUER.



BODY ASSEMBLY (M8) 75-19-79F2
BODY ASSEMBLY (M6) 75-19-79C2
BODY TO BE MADE FROM STANDARD COMMERCIAL PARAFFINED CARTRIDGE PAPER, OUTSIDE LAYER COLORED RED OR YELLOW TO MEET REQUIREMENTS OF SPEC. 50-63-6. ADVISORY LENGTH OF OUTER TUBE UNCRIMPED, 2.54-.01 (M6) OR 2.34-.01 (M8).



WASHER 75-19-79E
CHIPBOARD, COMMERCIAL
COVER BOTH SIDES OF CHIPBOARD STOCK WITH A THIN COAT OF ORANGE SHELLAC VARNISH, GRADE B, MEDIUM BODY AND ALLOW TO DRY BEFORE CUTTING WASHER.

DISC 75-19-79F
UNION SITION PAPER
DIAMETER DIMENSION
CONTROLS TOOL MANUFACTURE.

LIST OF PARTS

LINE NO.	NAME OF PART	NUMBER REQD. PER COMPONENT	PIECE-MARK	SIZE OR FORM	MATERIAL	KIND	GRADE	SPEC. NUMBER	APPROXIMATE WEIGHT (GRAINS)	APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES	REMARKS
1	ASSEMBLY (M8)		75-19-79E								
2	ASSEMBLY (M6)		75-19-79A								
3	WASHER, ASSEMBLY		75-19-79D								
4	BODY ASSEMBLY (M8)		75-19-79F		CARTRIDGE PAPER			50-63-6			
5	CHARGE	1	75-19-79B		PROPELLANT POWDER			50-12-5	120.		
6	DISC	2	75-19-79F	SHEET	UNION SITION PAPER			50-11-49			
7	BODY ASSEMBLY (M6)		75-19-79C		CARTRIDGE PAPER			50-63-6			
8	WASHER	2	75-19-79E	SHEET	CHIPBOARD			COMMERCIAL			
9											
10					GLUE			3-102			
11					INK, MARKING, BLACK			36-2			
12					VARNISH, SHELLAC, ORANGE	GRADE "B" MED. BODY		TT-V-91			
13					LACQUER, CELLULOSE NITRATE	CLEAR		3-158			
14											

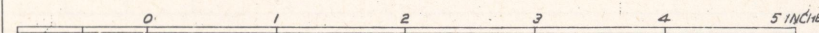
LIST OF SPECIFICATIONS

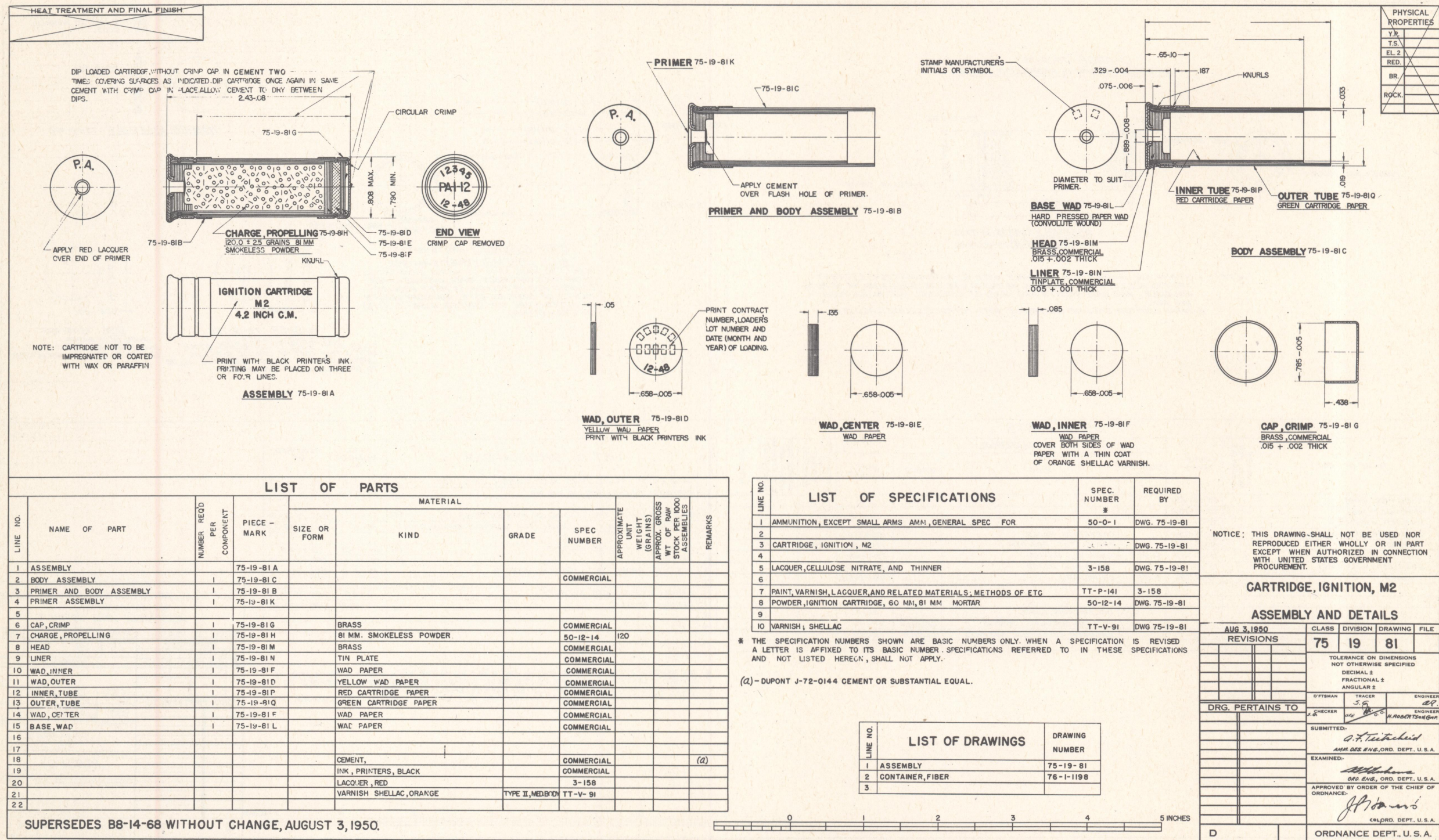
LINE NO.	SPEC. NUMBER	REQUIRED BY
1	ANIM. EXCEPT SMALL ARMS ANIM., GENERAL SPEC., FOR	50-0-1 DRG. 75-19-79
2	CARTRIDGE, IGNITION, M5, M6 AND M8	50-63-6 DRG. 75-19-79
3		
4	GLUE (FOR USE IN THE LOADING OF AMMUNITION)	(t) 3-102 DRG. 75-19-79
5	INK, MARKING BLACK AND WHITE (FOR MARKING AMMUNITION)	36-2 DRG. 75-19-79
6		
7	PAPER, GENERAL SPECIFICATIONS	(t) UU-P-31 50-11-49
8	PAPER, UNION SITION	(t) 50-11-49 DRG. 75-19-79
9	POWDER, PROPELLANT, TRENCH MORTAR	50-12-5 DRG. 75-19-79
10		
11	LACQUER, CELLULOSE NITRATE	3-158 DRG. 75-19-79
12	VARNISH, SHELLAC	TT-V-91 DRG. 75-19-79
13		
14		

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(t)-THESE SPECIFICATIONS ARE NOT MANDATORY BUT MAY BE USED BY THE CONTRACTOR.

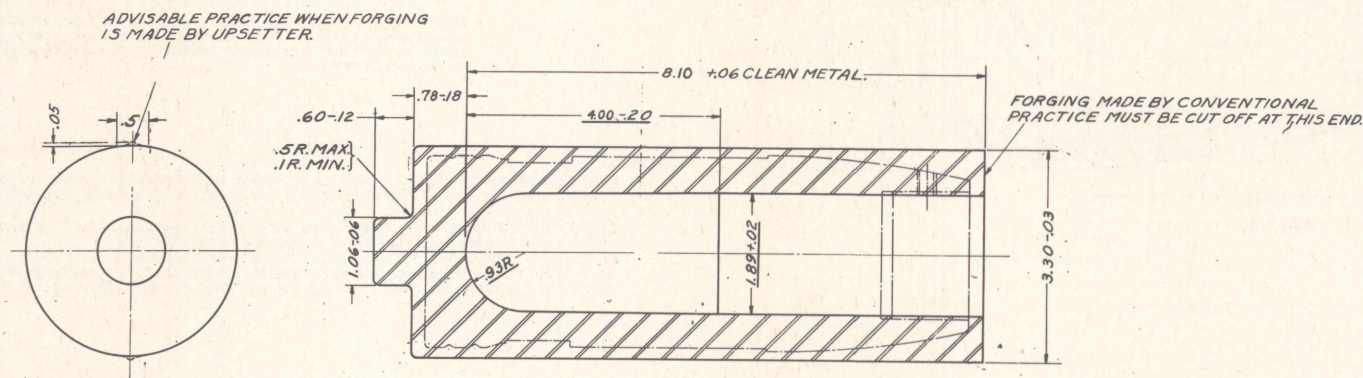
CARTRIDGE, IGNITION, M6 & M8, FOR 81MM, MORTAR, M1, AMMUNITION. ASSEMBLY AND DETAILS.

APRIL 2, 1941	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	19	79	
1 6-2-41				
2 6-5-45				
SYMBOL				
DRG. PERTAINS TO				
DRSMAN	TRACER	ENGINEER		
J.M.H.	J.F.R.			
CHECKER	CHECKER	CHIEF DFTMAN		
A.S.	A.S.	M.T.		
SUBMITTED				
CCL, ORD DEPT U.S.A.				
EXAMINED				
LT. COL. ORD DEPT U.S.A.				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE				
LT. COL. ORD DEPT U.S.A.				
ORDNANCE DEPT., U. S. A.				





HEAT TREATMENT & FINAL FINISH



FORGING SHELL 75-20-71A 5
STEEL

NOTES:

THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD. WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF AS SHOWN. UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY). IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

PHYSICAL PROPERTIES

YIELD STRENGTH - NOT LESS THAN 65,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15%
REDUCTION OF AREA - NOT LESS THAN 30%

FOR SHELL M42A1; SEE DRG 75-18-33

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR	50-0-1	DRG 75-20-71
2			
3			
4	FORGINGS FOR COMMON STEEL SHELL & SHRAPNEL	57-104-2	DRG 75-20-71
5			
6			
7	STEEL, FORGING, FOR SHELL STOCK	57-104-1	DRG 75-20-71
8	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-104-2
9			
10			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

LINE NO.	PART	POUNDS
1	FORGING	15.68 MAX.
2		

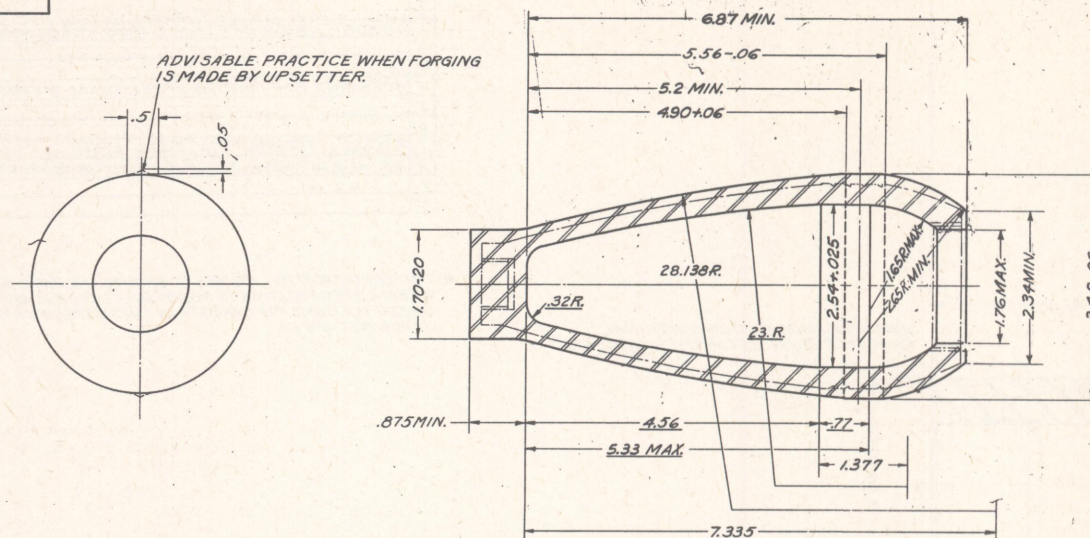
SUPERSEDES OLD TRACING 75-20-71
UNDER REVISION DATE OF APR. 26, 1939.

FORGING FOR SHELL
HE, 76MM, M42A1.

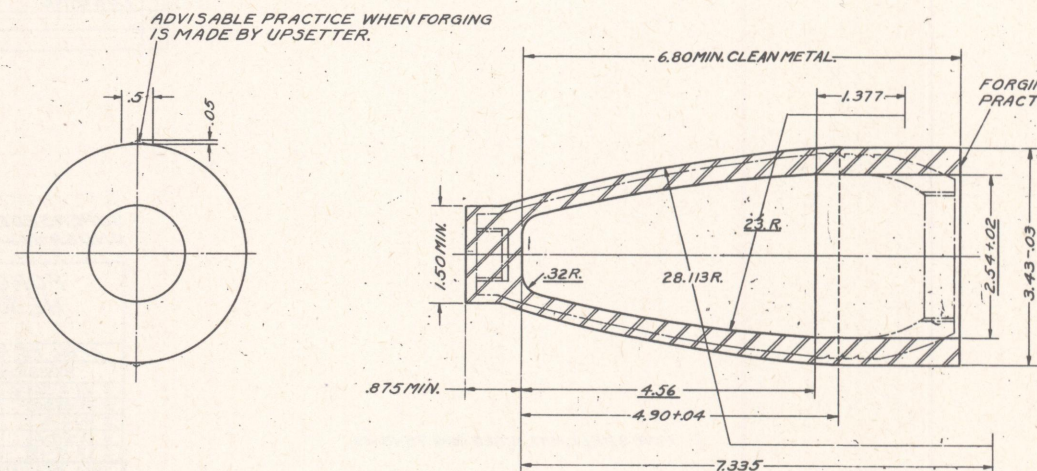
APRIL 25, 1932.	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	20	71	
1 12-4-36	6	11-1-49		
2 4-26-39				
3 10-4-41				
4 11-29-41				
5 8-15-45				
DRG. PERTAINS TO				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
LT-COL.				
ORDNANCE DEPT. U.S.A.				

0 1 2 3 4 5 6 7 8 9 10 11 INCHES.

HEAT TREATMENT & FINAL FINISH



FORGING, SHELL, TYPE I, 75-20-72 A8
STEEL



FORGING, SHELL TYPE II, 75-20-72 B8
STEEL

LINE NO.	LIST OF SPECIFICATIONS.	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR	50-0-1	DRG. 75-20-72
2			
3			
4	SHELL, STEEL FOR SMOOTH-BORE MORTARS, MANUFACTURED FROM FORGINGS	50-37-1	DRG. 75-20-72
5			
6			
7	STEEL, FORGING, FOR SHELL STOCK.	57-104-1	DRG. 75-20-72
8	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	57-104-2
9			
10			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTES:
THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD. WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF AS SHOWN.
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE.
MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .05 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY).

PHYSICAL PROPERTIES
YIELD STRENGTH - NOT LESS THAN 35,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15%.
REDUCTION OF AREA - NOT LESS THAN 30%.

NOTICE: THIS DRAWING IS NOT TO BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN COMMISSION WITH UNITED STATES GOVERNMENT PROPERTY.

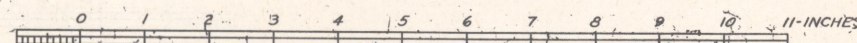
IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

LINE NO.	PART	POUNDS
1	FORGING, TYPE I	6.88 MAX.
2	FORGING, TYPE II	6.38 MAX.
3		

FOR SHELL SEE DRG. 75-2-261.

SUPERSEDES OLD TRACING 75-20-72 UNDER REVISION DATE OF MAY 1, 1938

FORGING FOR SHELL H.E. 81MM, M43A1 AND SHELL, PRACTICE, M43A1			
JULY 6, 1933		CLASS	DIVISION
REVISIONS		75	20
1	10-23-36	6	5-29-41
2	5-1-39	7	11-27-41
3	5-27-40	8	8-15-45
4	8-26-40		
5	2-7-41		
DRG. PERTAINS TO		CHECKER	TRACER
		H.G.T.	L.D. OFFICER
SUBMITTED:		H.S.D.	
EXAMINED:		MAJOR	
APPROVED, BY ORDER OF THE CHIEF OF ORDNANCE:		ORD. DEPT. U.S.A.	
LT. COL.		ORD. DEPT. U.S.A.	
D		ORDNANCE DEPT. U.S.A.	



* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

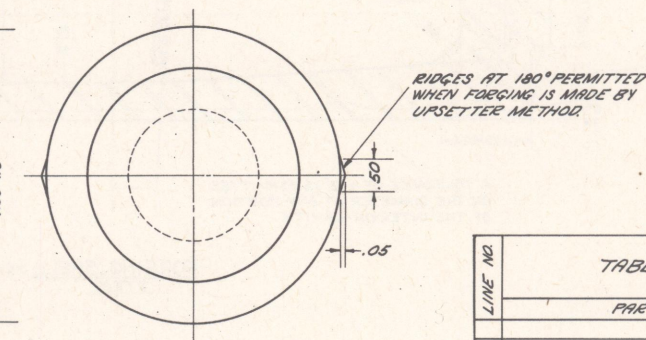
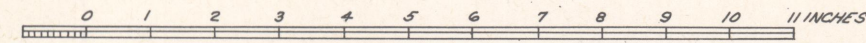


TABLE OF PHYSICAL PROPERTIES FOR TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL

NOTES: UNDESLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

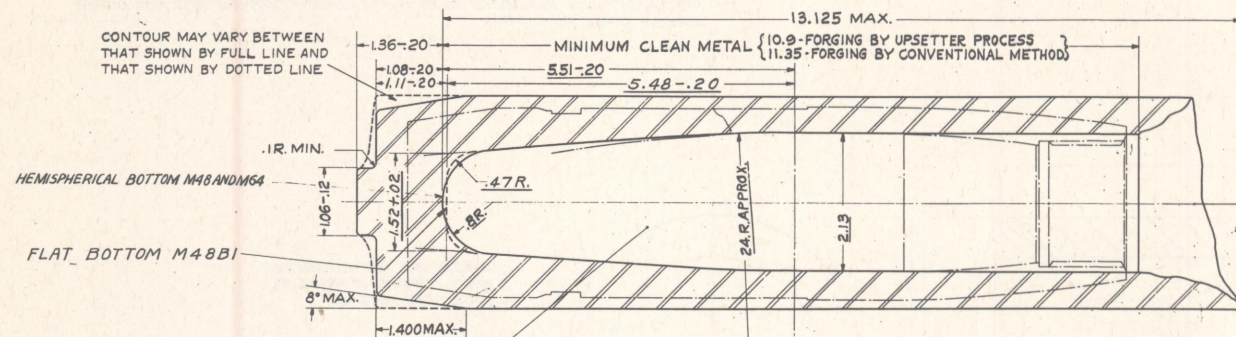
FOR SHELL DRGS. SEE 75-4-75 AND 75-4-91



SUPERSEDES OLD TRACING 75-20-76
UNDER REVISION DATE OF MAY 25, 1939

FORGING FOR SHELL, H.E., 105 MM, M1 AND M1B1; CHEMICAL, 105 MM, M60				CLASS	DIVISION	DRAWING	FILE
AUG 18, 1936 REVISIONS				75	20	76	
1	5-29-39	6	8-27-41	TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED			
2	4-10-40	7	9-15-41	DECIMAL ± FRACTIONAL ± ANGULAR ±			
3	11-12-40	8	10-29-41				
4	2-11-41	9	8-15-45				
5	2-15-41						
DRG. PERTAINS TO				DFTSMAN D-S-K.	TRACER <i>J. J. J.</i>	ENGINEER	
				CHECKER	<i>J. J. J.</i>	ENGINEER	
				SUBMITTED:			
				<i>Mikael Aezge</i> MAJ., ORD. DEPT. U.S.A.			
				EXAMINED:			
				<i>L. O. Booth</i> COL., ORD. DEPT. U.S.A.			
				APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:			
				<i>K. L. Adamson</i> LT COL., ORD. DEPT. U.S.A.			
D				ORDNANCE DEPT., U.S.A.			

HEAT TREATMENT & FINAL FINISH



A TOLERANCE OF $\pm .02$ IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY.

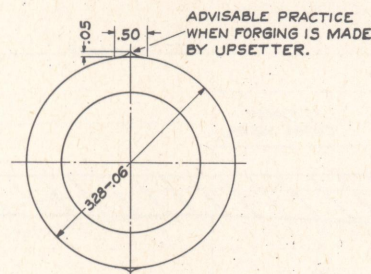
FORGING, SHELL 75-20-77A:12
STEEL

PHYSICAL PROPERTIES OF TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL.
YIELD STRENGTH - NOT LESS THAN 65,000 LBS./SQ. IN.
ELONGATION IN 2 IN. - NOT LESS THAN 15%
REDUCTION OF AREA - NOT LESS THAN 30%

NOTES:-

UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR SHELL SEE DRG. 75-2-269 AND 75-2-294



THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD. WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF AS SHOWN

LIST OF SPECIFICATIONS

LINE NO.	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1 DRG. 75-20-77
2	STEEL, FORGING FOR SHELL STOCK	57-104-1 DRG. 75-20-77
3	FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2 DRG. 75-20-77
4		
5		
6		
7		
8	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151 57-104-2
9		
10		

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

TABLE OF WEIGHTS

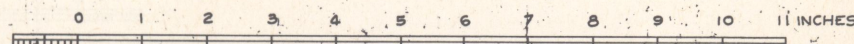
LINE NO.	PART	POUNDS
1	FORGING	20. MAX.
2		
3		
4		

SUPERSEDES OLD TRACING 75-20-77
UNDER REVISION DATE OF APRIL 10, 1940.

NOTICE: THIS DRAWING SHALL NOT BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED BY COM. SECTION WITH UNITED STATES GOVERNMENT PERMISSION.

FORGING FOR SHELL,
H.E., 75 MM., M48 AND M48B1,
AND CHEM. 75MM., M64.

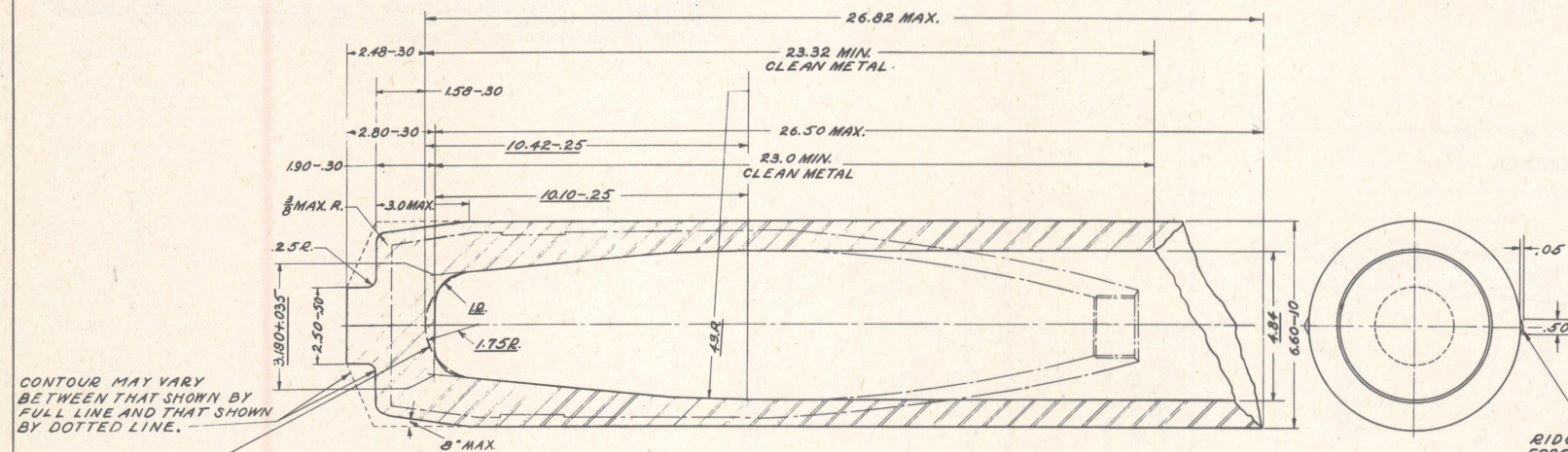
JANUARY 4, 1937	CLASS	DIVISION	DRAWING	FILE
75	20	77		
REVISIONS				
6 5-27-40	11 10-27-41			
7 4-10-40	12 8-15-45			
8 7-15-40				
9 1-24-41				
10 8-27-41				
DRG. PERTAINS TO				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
ORDNANCE DEPT., U. S. A.				



HEAT TREATMENT AND FINAL FINISH

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-20-80
2	STEEL, FORGING, FOR SHELL STOCK	5T-104-1	DRG. 75-20-80
3	FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL	5T-104-2	DRG. 75-20-80
4			
5			
6	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	5T-104-2
7			
8			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

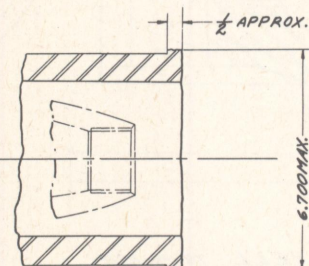


CONTOUR MAY VARY BETWEEN THAT SHOWN BY FULL LINE AND THAT SHOWN BY DOTTED LINE.

A TOLERANCE OF ± 0.035 IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY.

HEMISPHERICAL BOTTOM, MODIFI

FORGING, SHELL. 75-20-80A10
STEEL.



END MADE BY
UPSETTER METHOD.

DESIGNATION	DRAWING NO.
M101 & M101B1	75-4-80
M102 & M102B1	75-4-82
M104 & M104B1	75-4-89
M105 & M105B1	75-4-90
M107 & M107B1	75-4-99
M110 & M110B1	75-4-100

TABLE OF PHYSICAL PROPERTIES, FOR TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL

PIECEMARK	75-20-80A
FOR SHELL	ALL
YIELD STRENGTH - NOT LESS THAN	65,000
ELONGATION IN 2 IN. - NOT LESS THAN	15%
REDUCTION OF AREA - NOT LESS THAN	30%

NOTES: UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .093 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

0 1 2 3 4 5 6 7 8 9 10 11 INCHES

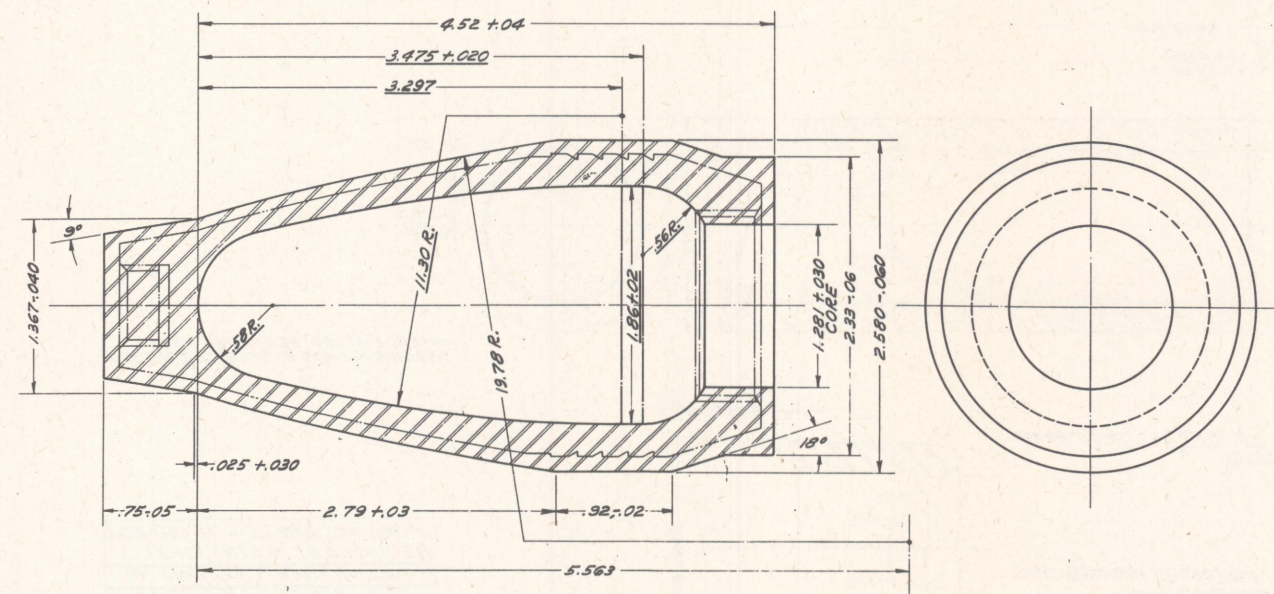
LINE NO.	PART	POUNDS
1	FORGING	154.0 MAX.
2		
3		

SUPERSEDES OLD TRACING 75-20-80
UNDER REVISION DATE OF MARCH 15, 1943.

FORGING FOR SHELL, 155 MM, M101, M102, M104, M105, M107, AND M110, ETAL.				
MAY 18, 1933	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	20	80	
9 1-2-42				
10 3-5-43				
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL \pm FRACTIONAL \pm ANGULAR \pm				
DRG. PERTAINS TO				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
ORDNANCE DEPT. U.S.A.				

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR	50-0-1	DRG. 75-20-83
2			
3			
4			
5	METALS, GENERAL SPECIFICATIONS FOR THE INSPECTION OF	QQ-M-151	AXS-484
6	SHELL, STEEL FOR SMOOTH BORE MORTARS MFG. FROM STEEL CASTINGS	50-97-3	DRG. 75-20-83
7			

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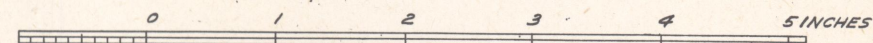
WEIGHT OF CASTING = 2.90 POUNDS MAX.

CASTING, SHELL 75-20-83A

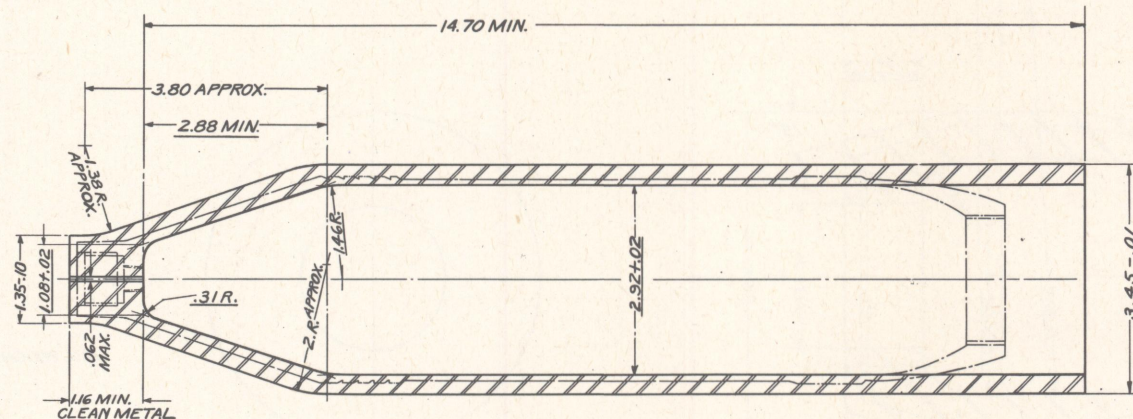
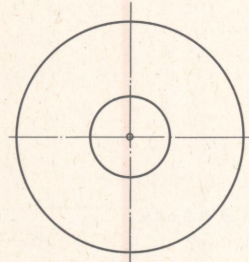
NOTES:-
A - MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY OF SHELL AND OUTSIDE SURFACE AT ANY POINT, .045. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING ON THE DIAL IS TWICE THE ECCENTRICITY.)
B - CASTING TO WITHSTAND AN INTERNAL AIR PRESSURE TEST OF 250 LBS. PER SQ. IN.
C - DOT AND DASH LINES INDICATE FINISHED SHELL.
D - UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE MACHINED.
E - CAVITY MUST BE FREE FROM SCALES, PITS, SEAMS, LAMINATIONS, CRACKS, BLOW HOLES, POCKETS, SAND, OR OTHER IMPERFECTIONS. THE FINISH OF THE CAVITY SURFACE MUST BE THE EQUAL OF A FINISH BORED CAVITY.
F - CAPACITY OF CAVITY AS CAST SHALL BE 8.85 CU. IN. APPROX.
G - IF MANUFACTURER OF CASTING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF CASTING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR DRAWING OF SHELL SEE 75-2-288

NOTICE: THIS DRAWING SHALL NOT BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.



CASTING FOR SHELL, H.E. 60MM, M49A2 AND PRACTICE 60MM, M50A2				
JUNE 3, 1940	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	20	83	
1 VI-17-41				
2 8-15-45				
DRG. PERTAINS TO				
SUBMITTED: <i>Milburn Hesp</i>				
EXAMINED: <i>R. B. Smith</i>				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>L. A. Brown</i>				
ORDNANCE DEPT., U. S. A.				



FORGING SHELL 75-20-86A
SEAMLESS STEEL TUBING, WDX-1335

NOTES:-
EXTERIOR AND INTERIOR CONTOURS AT BASE END MAY VARY FROM THOSE SHOWN TO FACILITATE FORGING PROVIDING SUFFICIENT METAL IS ALLOWED FOR MACHINING AND THE FORGING WEIGHT IS WITHIN THE LIMITS SPECIFIED.
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED.
DOT AND DASH LINES REPRESENT FINISHED PROJECTILE.
MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .07 INCH (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY).

PHYSICAL PROPERTIES FOR CLASS II FORGINGS
YIELD POINT - NOT LESS THAN 60,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15 %
REDUCTION IN AREA - NOT LESS THAN 30 %

LINE NO.	LIST OF SPECIFICATIONS	SPEC. NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS, GENERAL SPEC. FOR	50-0-1	75-20-86
2			
3	SHELL, STEEL, FOR SMOOTH-BORE MORTAR, MFR FROM FORGINGS	50-37-1	75-20-86
4			
5	STRUCTURAL STEEL TUBES, WELDED & SEAMLESS, CARBON & ALLOY	57-180	75-20-86
6			
7	METALS, GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151	50-37-1
8			
9			
10			

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HEREON, SHALL NOT APPLY.

MAX. WEIGHT OF FORGING = 11.26 LBS.

NOTICE: THIS DRAWING SHALL NOT BE USED OR REPRODUCED EXCEPT BY THE U.S. ARMY OR NAVY OR BY ANY OTHER AGENCY OF THE U.S. GOVERNMENT OR BY ANY OTHER AGENCY OF THE U.S. GOVERNMENT OR BY ANY OTHER AGENCY OF THE U.S. GOVERNMENT.

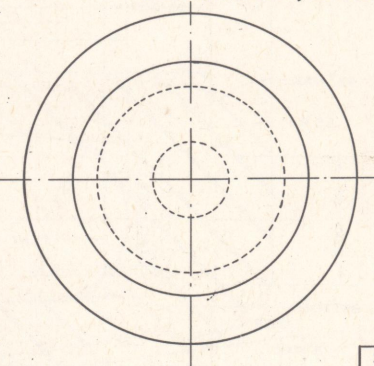
FOR SHELL, M56, SEE DR. 75-2-283
FOR SHELL, M57, SEE DR. 75-2-284

SCALE: 1/2

FORGING FOR SHELL H.E. AND CHEMICAL 81 MM., M56 AND M57				
FEBRUARY 1, 1941	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	20	86	
1 8-15-45				
DRG. PERTAINS TO				
SUBMITTED:				
EXAMINED:				
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:				
D				
ORDNANCE DEPT., U. S. A.				

LINE NO	LIST OF SPECIFICATIONS.	SPEC. NUMBER	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR	58-0-1	DRG. 75-20-89
2			
3	STEEL, FORGING; FOR SHELL STOCK	57-104-1	DRG. 75-20-89
4			
5	FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2	DRG. 75-20-89
6	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	99-14-151	57-104-2
7			
8			
9			

* THE SPECIFICATION NUMBER SHOWN ARE BASIC NUMBERS ONLY, WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



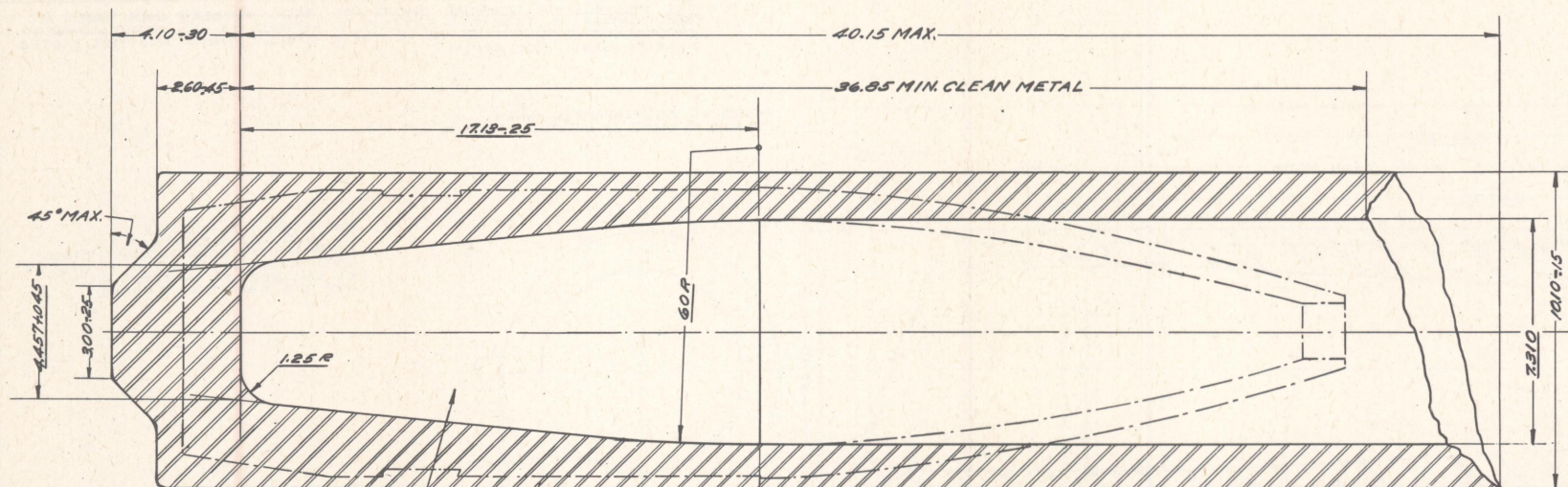
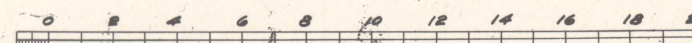
LINE NO	PART	POUNDS.
1	FORGING.	550 MAX.
2		
3		

FORGING FOR SHELL, H.E., 240MM, M114

APRIL 25, 1941	CLASS	DIVISION	DRAWING	FILE
REVISIONS	75	20	89	
1 5-26-42				
2 8-15-45				
DRG. PERTAINS TO	DRG. NO.	TRACER	CHKD. BY	DATE
SUBMITTED:	Milesus Gage			
EXAMINED:	Milesus Gage			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:	H. J. Adams			
D	1	ORDNANCE DEPT. U.S.A.		

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

FOR SHELL, SEE DRG. 75-4-92



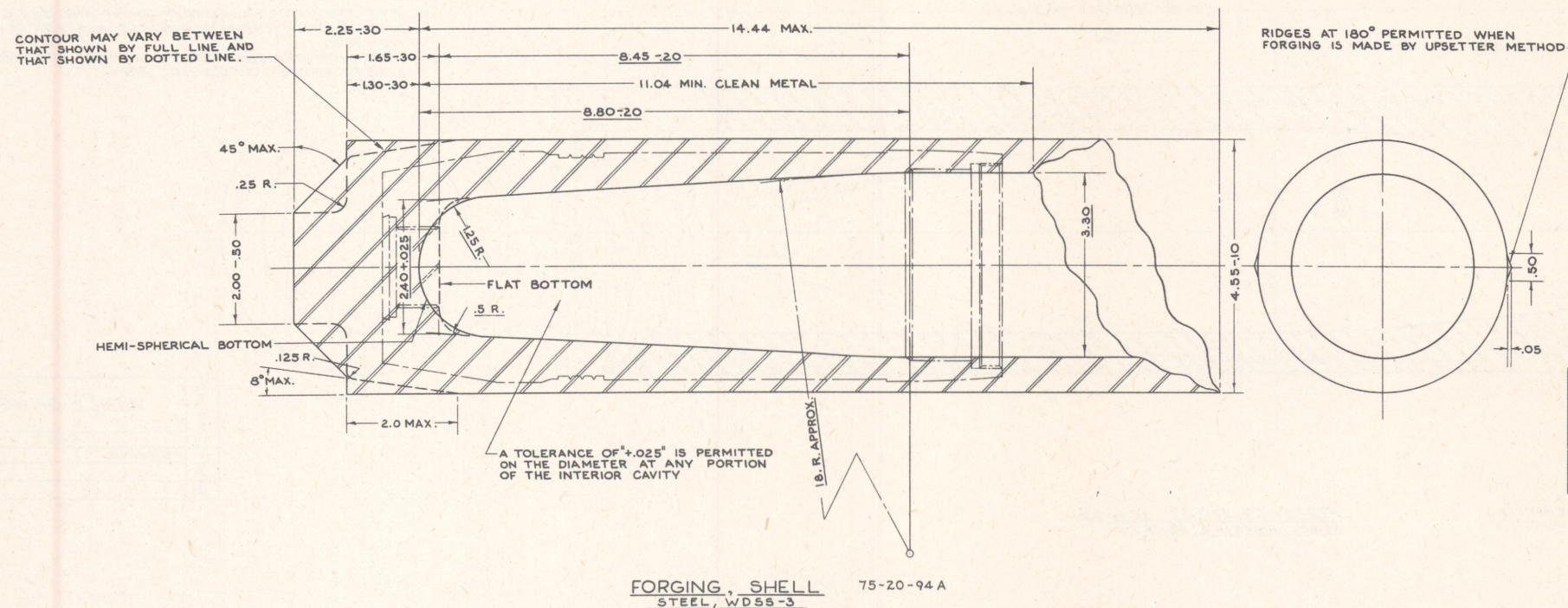
A TOLERANCE OF $\pm .045$ IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY

FORGING SHELL-75-20-89A
STEEL FORGING CLASS I

NOTES:-
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .093 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY) IF MANUFACTURER OF THE SHELL PURCHASES OR MANUFACTURES THE FORGINGS, THE DIMENSIONS OF FORGINGS MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

LINE NO.	LIST OF SPECIFICATIONS	SPECIFICATION NUMBER *	REQUIRED BY
1	AMMUNITION, EXCEPT SMALL ARMS, AMM. GENERAL SPEC.	50-0-1	DRG. 75-20-94
2			
3	FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL	57-104-2	DRG. 75-20-94
4	STEEL, FORGING, FOR SHELL STOCK	57-104-1	DRG. 75-20-94
5			
6	METAL, GENERAL SPECIFICATIONS FOR INSPECTION OF	QQ-M-151	57-104-2

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



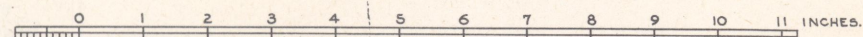
LINE NO.	PART	POUNDS
1		
2	SHELL FORGING	43.96 MAX.
3		

NOTICE: THIS DRAWING SHALL NOT BE USED IN THE FIELD FOR EITHER CONSTRUCTION OR INSPECTION OF THE SHELL. IT IS FOR INFORMATION ONLY.

TABLE OF PHYSICAL PROPERTIES FOR TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL	
YIELD POINT	NOT LESS THAN 65,000 LBS. SQ. IN.
ELONGATION IN 2 IN.	NOT LESS THAN 15 %
REDUCTION OF AREA	NOT LESS THAN 30 %

NOTES: UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR SHELL DRG. SEE 75-4-106



FORGING FOR SHELL, H.E., A.T., 105 MM., M67			
MAY 4, 1942	CLASS	DIVISION	DRAWING FILE
REVISIONS	75	20	94
SYMBOL			
DFTSMAN	TRACER	LOG DFTSMAN	
G.T. FULTON	G.T. FULTON	G.T. FULTON	
CHECKER	CHECKER	CHEF DFTSMAN	
SUBMITTED BY: <i>[Signature]</i>			
DRG. PERTAINS TO: <i>[Signature]</i>			
EXAMINED BY: <i>[Signature]</i>			
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>[Signature]</i>			
COL. ORD. DEPT., U.S.A.			
ORDNANCE OFFICE, WAR DEPT.			